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Address.

HOW THE STATE PROVIDES FOR ITS MENTALLY ILL.*

By L. VERNON BRIGGS, M.D., BOSTON,

Secretary, Massachusetts State Board of Insanity.

THE earliest mention of the care of the mentally ill in this State which I have seen is a quotation from the will of Thomas Hancock, who died in 1764. This, and quotations from Charles Dickens, who visited America in 1842, are made use of in a most interesting paper on the "State Care of Boston's Insane," by Dr. Henry P. Frost, the present able superintendent of the Boston State Hospital. Thomas Hancock in his will (which is dated March 5, 1763) says:

"I give unto the Town of Boston the sum of six hundred pounds, lawful money, towards erecting and finishing a convenient House for the reception and more comfortable keeping of such unhappy persons as it shall please God, in His providence, to deprive of their reason, in any part of this Province; such as are inhabitants of Boston always to have the preference. This sum I order shall be paid into the hands of the Town Treasurer for the time being, viz: One-half thereof in three months after said House shall be begun, and the other half

thereof when the same shall be finished and fit for said purpose. And in case said House shall not be built and finished in three years after my decease, I then declare this legacy to be void; or if I should in my lifetime erect it, this bequest then to be void."

Thomas Hancock was an uncle of John Hancock, afterwards the first Governor of Massachusetts. It was Thomas Hancock who built the house which was inherited by his nephew, Governor John Hancock, which became the Governor's Mansion, next to the State House on Beacon Hill.

The above legacy, given to the City of Boston by Mr. Hancock, was declined because the Selectmen did not consider that there were enough mentally ill persons in the Province for whom to erect such a house, and it was not for 75 years, or in 1839, that there was opened, for the reception of patients, the Boston Lunatic Hospital, built because of the over-crowded condition of the Worcester Lunatic Asylum (now the Worcester State Hospital), which was opened in 1833.

Prior to that time, McLean Hospital (then in Somerville) received patients. This hospital was opened for the reception of patients in 1818. Taunton Hospital was opened for the reception of patients in 1854; Northampton State Hospital in 1858; Grafton State Hospital (formerly Worcester State Asylum) in 1877; Danvers State Hospital in 1878; Westborough State Hospital in 1886; Foxborough State Hospital in 1893; Medfield State Hospital in 1896; Monson State Hospital in 1898, and the Gardner State

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Colony in 1902. The Mental Wards at the State Infirmary were opened in 1866, and the Bridgewater State Hospital (for the criminal insane) was opened in 1886. The first school for the feeble-minded was opened at Waltham in 1848, and a second school at Wrentham in 1907.

According to a census taken in 1865, there were approximately 2,104 so-called insane and feeble-minded in a total population of 1,267,031, or 1 to 602. Today, with an estimated population of 3,693,310, we have 18,604 so-called insane, feeble-minded, epileptics and alcoholics in institutions under the care of the State Board of Insanity, or 1 to 198.

The mentally ill in this and most of the other States of the Union are today under State supervision. In Massachusetts the average annual expenditure for their care and treatment, for a five-year period, including both maintenance and expenditures for special purposes, is \$4,068,455.00, the largest single item in the State's budget.

It therefore behooves every citizen, for reasons of economy, as well as humanity, to know how this important branch of the State's work is being carried on. We have in Massachusetts 10 State Hospitals for the mentally ill, two schools for the feeble-minded and a school for the epileptics; also 27 private hospitals or sanitariums.

Each of the State Hospitals is designed to cover a certain district, and it will not be necessary to send the mentally afflicted patients where they cannot be visited frequently by their families and friends, when the State properly provides for all its wards.

These institutions are under the control of a central Board of Insanity, of which the present speaker has the honor to be the Secretary. For many years this Board consisted of five unpaid members, whose powers were mainly recommendatory or advisory. They met monthly, the actual work being done by a paid Executive Secretary. In 1914, the Board was reorganized by act of Legislature, following investigation by the Commission on Economy and Efficiency, in which it was proved that there was really no central authority upon whom to fix responsibility.

The new Board, as at present organized, consists of three paid members, giving full time, one of whom must be a specialist in mental diseases. The Board now has mandatory powers and greatly increased responsibility, and consequently its opportunities for usefulness have been greatly increased.

Among the things which this Board has accomplished during its short term of office, which I will mention briefly, are:

The issuing of Bulletins monthly, informing the different State Hospitals and the public what is being done in the hospitals and by this Board.

Raising the standards of requirements for physicians on the staffs of the State hospitals.

Stimulating the establishment of out-patient departments for the mentally ill.

Stimulating the discharge of patients who could be taken care of as well outside the institutions as in.

Re-classifying the patients in the institutions, segregating the inebriates, the epileptics, the feeble-minded and the delinquents into groups by themselves.

Investigating the mental condition of prisoners at the Bridgewater State Hospital and at the State Prison, to ascertain which of the prisoners are really responsible for the crimes which they have committed, and which are not.

Classifying the medical officers of the State institutions according to salaries paid, thus making the positions in the different hospitals uniform.

Encouraging the opening up of the hospitals to the friends and relatives of patients, and to visitors.

Purchasing the land for a new Metropolitan State Hospital, and also for a new school for the feeble-minded in the western part of the State, and making plans for the new Metropolitan State Hospital.

Formulating rules and regulations for the government of the hospitals.

Making plans for a uniform curriculum, and raising the standards of the training schools for nurses in all the hospitals.

Controlling the use and abuse of drugs and alcohol in the State institutions.

Increasing the scientific work, which also has reduced the number of accidents and injuries, and done much toward ascertaining the cause of mental disease.

Establishing fire drills in all the hospitals, and requiring monthly reports of the same.

Changing some of the asylums into State hospitals.

Formulating many other progressive measures, which there has not yet been time to work out or establish.

Today there is an over-crowding in our State hospitals of 807, and no relief is in sight for the next two years. The Legislature of Massachusetts has not appropriated any money for additional beds in the past two years. There is a bill before the Legislature now asking an appropriation of a million dollars for the erection of the new Metropolitan State Hospital, to be built on land which this Board purchased last year. There are committed patients today belonging in the Metropolitan District to the number of 6,000. Of this large number, only 1,609, or 26% are taken care of in the Metropolitan District. The others belonging in this district are sent to different hospitals, where in many instances their families cannot visit them. This also leads to an over-crowding in these hospitals, most of which would otherwise be able to take

care of the mentally ill of their own districts without additional buildings.

It is planned that the Boston State Hospital shall accommodate 2,000 patients. There are plans for 2,000 more at the Metropolitan State Hospital, and the architects' plans for buildings for the same are now before the Legislature. It is hoped that the Legislature will appropriate the money to commence work on this new institution this year.

Coming down to just how Massachusetts takes care of its mentally ill: There are three ways in which patients may be admitted to our State hospitals.

1. The people in the community who feel that they need hospital care because they are conscious of some mental disturbance, and who are perfectly capable of deciding where they will go, may go voluntarily to the hospitals, and are classed as "Voluntary" patients. Four years ago we had 359 voluntary admissions in our State hospitals; during the past year we have had 963. These patients come to us usually in the very early stages of their trouble and receive treatment which, in a majority of cases, enables them to leave the hospital without commitment and without actually losing their reason. This increase shows the greater confidence the public has had in our institutions in the past few years.

2. The next class of cases is termed "Temporary Care" cases, which, under Chapter 307, of the Acts of 1910, and Chapter 174 of the Acts of 1915, may be sent to any of the State hospitals for an observation period to determine if there is some obscure mental disturbance due to disease, accident or injury, drugs or alcohol, or a psychic disturbance. In the Boston district these cases go to the Psychopathic Hospital, which has special facilities for temporary care and for acute cases. Last year, 1,529 such cases were received at the Psychopathic Hospital. These patients may be sent by any physician, preferably the family physician, or by the police, without commitment. The class of patients who are usually received from the police are those who are found on the street, in hotels or in boarding houses, who suddenly become confused, apprehensive or, in some cases, violent, and who, prior to the enactment of this law, were taken by the police to the station house, where, if the officers felt there was some mental trouble or delirium, an order was made for their removal to the Tombs. Here they were locked up, sometimes in cells without even a mattress, and examined by two physicians who the next day appeared before the Judge (if the Court happened to be sitting). Otherwise the patient might have to remain in the cell in the Tombs over Saturday and Sunday (and a holiday occasionally) before receiving expert medical care. It was a crime to take these people and shut them up in cells. It is now against the law, and the police, who have always felt

opposed to these brutal methods, now take these persons directly to the Psychopathic Hospital, where they are received, bathed and put to bed, nursed and given proper medical care and treatment, as are cases in general hospitals. This new law applies all over the State, and these 10-day "Temporary Care" cases may be taken into any State Hospital under the same conditions.

3. The third class of admissions are those whose family physicians, or other physicians who may be called, find that the patients are so disturbed mentally that there is no question but that they should be committed to a hospital, for a time at least. These cases have each to be examined by two physicians, who appear promptly before the judge of the court, and the latter gives an order to some court officer to take the patient to the hospital to which he has legally committed him.

The State Board of Insanity now has a bill in the Legislature asking that a law be passed which will result in the State Hospitals sending trained nurses and attendants for these patients, instead of having them taken to the hospitals by the police or court officers. This is no reflection on the manner in which most of these patients are handled by the police, but the principle is wrong: that a person having mental disease should be handled by officers of the law, while, if he is suffering from any other disease, ambulances and nurses are sent for him and he is treated as an ill person and not as a criminal. New York has such a law, as well as Rhoda Island and North Carolina, and it is hoped that Massachusetts will soon be ready to care for her mentally ill people as she does for all other cases of illness.

Nine of our State hospitals have training schools for nurses. It has been difficult to get enough nurses of the right sort to take the training, and many of our institutions have to depend largely upon trained or untrained attendants, both men and women. With the introduction and standardizing of a new curriculum for nurses, it is hoped that the qualifications demanded will be so high that this training course will attract a class of women of ability, who shall become experts in their work. We hope soon to have in each State hospital a three-year course, including nine months in a general hospital, and also including instruction in therapeutic occupation, hydrotherapy, etc., as well as much special instruction in the care and treatment of the insane. In addition, it is proposed to have a post-graduate course at the Psychopathic Hospital, which we trust will be largely attended by nurses from our own and other high grade training schools who desire to fit themselves for supervisory and teaching positions in the various State Hospitals.

The present Board is also encouraging the employment of female nurses in place of male attendants on all of the wards of the State hos-

pitals, both male and female. Where this has been done, improvement has followed, both in the condition of patients and the condition of the wards. Several of our State hospitals have started this work and many hospitals in this country now have only women nurses in charge of the male wards. Even in Oklahoma, according to the last report of the Oklahoma State Hospital at Norman, "women nurses have been employed in male wards in this hospital for the last four years. In not a single instance in these years has a male patient struck his nurse. Men rarely are so disturbed that they will not yield to the gentleness of women. The presence and ministrations of women nurses in male wards have been observed as possessing even clinical merit, as several classes of psychoses seem to respond more quickly to nursing by women than by men."

The out-patient service of the State hospitals has been stimulated by this Board, so that now the State hospitals have reached out into the community to give relief to the early case and prevent the progress of mental disease and to obviate the necessity of hospital residence. This out-patient service has grown month by month, and now out-patient clinics are established in the following cities:

Worcester, Spencer, Taunton, Fall River, New Bedford, Northampton, Springfield, Greenfield, Pittsfield, Boston, Danvers, Lawrence, Gloucester, Haverhill, Lynn, Salem, Newburyport, Malden, Westboro, Gardner, Fitchburg, Winchendon, Monson, Brockton, and Grafton. The Massachusetts School for the Feeble-Minded has also reached out into the community and has clinics in conjunction with these State Hospital clinics at Worcester, New Bedford, Fall River, Taunton, Haverhill and Springfield.

The last three months' report shows that 82 patients came or were sent to these clinics by physicians, 11.15% of whom were never in a State Hospital and are, therefore, the early cases in which preventive measures are so valuable.

There is no reason why clinics should not be established in every city or town of any considerable size where, as is now the case in the present clinics, people in the community who feel they need help on account of some mental disturbance can go, or where the city or the country physician, who has had no special training in mental disease, may send or take his patient for consultation, without charge; where the charity worker or town officer, or other public official may take or send children or adults for examination; where the school committee or school teacher or nurse may take pupils who are backward and whose retardation cannot be explained; and where the friends or members of the families of the patients in the hospitals, who are unable to go to the hospitals to see their friends or relatives, may come and see the physician who is directly in charge of that particu-

lar member of their family or of their friends and talk with that physician and get the latest reports concerning the ones in whom they are interested. This has been a great satisfaction to those who are unable to go to the hospitals, and of value to the hospitals, in that much can be learned of the family history and the normal tendencies of the patient from the members of the family visiting the clinic, thus helping the treatment.

At each of these clinics, beside the physicians, there is a social worker, who obtains histories of the families and records what their previous surroundings and normal conditions were, and in many cases facts which led up to the mental illness, which could be obtained in no other way. This social service is being developed as fast as the Legislature will give the money for its development, and the Board has urged the appointment of a Director of Social Work to help the hospitals organize and amplify this work.

In regard to treatment: There is a general impression that nothing is done in the way of treatment for the mentally ill in our State institutions, and that patients receive only board and lodging. This is, in some cases, true, and is due to several factors:

First, we may say, lack of funds to properly extend medical and surgical aid to these people.

Second, lack of funds to employ physicians skilled in the treatment of mental disease, and to retain them after we have been successful in securing them. In no branch of the profession has there been such a field as this for untrained and unskilled physicians.

This present Board of Insanity has set about to raise the standard of the medical men who hereafter shall come in contact with the State's mentally ill, and all physicians who have not had previous experience in the care and treatment of mental disease are obliged to take a special course at the Psychopathic Hospital. That the poor man, as well as the rich, may enter into this field of medicine, the Board has arranged with the Psychopathic Hospital to give this course free of charge to all candidates for State hospital positions, and during the course they receive board and room free.

The young men who are now coming into the service should be of great help to the superintendents, whose training and experience merit the best of assistants, and with good tools better work is sure to be done, as, for instance, the work which is now being done by the Board's Special Investigator of Brain Syphilis. This physician visits all the hospitals, and is introducing modern treatment in brain syphilis, including many cases of general paralysis, which until recently was supposed to be an incurable disease. Some most encouraging results have been obtained, but it is too early to publish statistics. The Board has increased the work of the Pathological Department, appointing additional physicians skilled in the study of dis-

ease, and the results of this work are most encouraging.

The giving up of restraint in the hospitals has increased the use of the continuous bath, so that now excited patients, instead of being restrained mechanically, as was formerly the custom, are allowed to get in and out of the tubs of water, and to lie in the bath, where they soon feel the beneficial effects of the water. They often ask to be allowed to lie in these tubs, and frequently patients remain in the baths for many hours of the day or night.

Occupation is more and more a feature in a therapeutic and curative way, and teachers are being employed to instruct many patients in arts and crafts and industrial work, so that, instead of sitting on benches and around the dormitories and wards day after day, doing nothing, they are interested in some occupation, which will also interest their neighbors, and instead of becoming quarrelsome and getting tired and cross with nothing to do, today in the ward where the patients are occupied—in knitting, basketry, bead-work, lace-making, pottery-work, or playing games—the whole atmosphere of the ward is changed from one of depression to one of more or less cheerfulness. These teachers are also instructing the nurses, and the Board has in mind the purpose of this instruction, which is that the nurses shall become teachers and helpers to the patients, rather than keepers and overseers.

This Board found epileptics, insane, alcoholics, feeble-minded and defective delinquents associating more or less in the same hospitals, and some of these classes in the same wards. It found feeble-minded and defective girls as young as 15 or 16 years of age in wards with the insane adults. One of the first things we did was to plan a re-classification of patients, and we have now accomplished the removal of virtually all the epileptics to two hospitals, with the idea of giving them special treatment as soon as the money can be obtained.

We have also removed from the hospitals to one ward of one hospital all the women inebriates. This is the first classification of women alcoholics, and the first segregation of them that has ever been made by the State of Massachusetts.

The Board found that many of the relatives and friends of the patients could not see the patients in whom they were interested, because the visiting days were not convenient, without loss of time and possibly loss of position if they made frequent visits. They may now visit the State Hospital every day in the week, and may see their relatives and friends when it is not a sacrifice to do so. This hospitality will do much, we trust, to disarm ignorant public criticism. We want the public to know our institutions and the effort they are making to do intelligent, humane, scientific work for this much-neglected class of the State's wards. Not until we have

public sympathy can we expect the Legislature to grant us the necessary appropriations to carry on this work efficiently.

The paroling and allowing patients' visits has been encouraged and is increasing. Under our laws a superintendent may allow a patient to go out of the hospital on six months' leave of absence for trial, to be returned at any time within the six months if it is found that he is not ready to take up his life in the community. No one should ask that this privilege be granted unless the superintendent feels confident that it is for the best good of the patient. It too often happens that the friends desire the patient out of the hospital before the time comes when it is best that he should go. On the other hand, it is only too common to find sons and daughters anxious to shift the care of harmless, senile parents upon the State, who might much better be cared for in their homes.

Accommodations are being prepared in one of the hospitals to take care of that class of patients which has been sent to us, called "defective delinquents." These wards of the State ought not to be associated with the mentally ill, but are so defective from birth that they are not tolerated in the community, and if discharged into the community are returned again and again. They must be taken care of by the State, and should be provided for in groups by themselves, where they will not come into contact with the really mentally ill persons, and where the mentally ill will not have to come in contact with them.

The Board also is planning to remove the feeble-minded from the State hospitals, and is now picking out a great many of these cases from certain wards of the hospitals and placing them by themselves in a closer and better classification.

As soon as the new Metropolitan State Hospital is built, or there is room for more patients in the extensions of any of the other State hospitals, the Board will remove many cases from the Bridgewater State Hospital (for the criminal insane) who can be taken care of in our State hospitals. There are many patients in this hospital who are not really criminals. Nearly 25% are feeble-minded, and many are defective delinquents and should always be looked after. On investigation, the Board found 16 cases there who were never criminals, and who had no criminal record. Some of these patients had been taken to Bridgewater from other institutions to help in the work, until they got enough criminally insane there to perform the necessary ward duties. These were apparently forgotten until the present State Board of Insanity was appointed and made its investigation.

This Board has extended its work, at the request of the Prison Commission, to the inmates of the State Prison, and has had examinations made of 300 prisoners. The result shows that

22% of these men cannot be held responsible for the crimes which they have committed. They are feeble-minded, even to the point, in some cases, of being imbeciles, and to turn them again loose into the community to associate with the depraved class that lead them into trouble, is a crime for which Massachusetts ought not to assume the responsibility.

The present Board is encouraging more out-of-door life and more open wards. There are in some of our State hospitals wards and buildings which are not locked, neither the doors nor the windows—and the patients come and go as they please. There should be more of this. A majority of the people now confined in our State hospitals should be allowed the freedom of the grounds without the slightest fear of their running away or doing harm to themselves or others. Only about 8% are really violent and dangerous. Our superintendents, who have appreciated this fact, are today encouraging out-of-door sports and games and work.

One of the results is the formation of baseball nines in the different hospitals, and now there is an interchange of games between the nines of some of the hospitals. The nine of one hospital visits another hospital and plays one afternoon, and later on the latter nine returns the visit and plays the first hospital's nine. This interchange between teams is going to be more frequent, and brings much interest to the patients who can watch these games. At one of the last games of the autumn, 50 patients of the Medfield State Hospital were allowed to accompany the baseball nine to Taunton the afternoon that Medfield played Taunton. This, and the privilege of attending the dances in the evening, and private theatricals and moving picture shows, are great incentives to patients to get hold of themselves, to control themselves, and to coöperate with the physicians in the work of getting them back into the community.

Original Articles.

HALLUX RIGIDUS.

BY CHARLES F. PAINTER, M.D., F.A.C.S., BOSTON.

In a paper recently published by the writer, upon *Hallux Valgus*, reference was made to the possible influence of anatomic variations of the bones of the tarsus upon the causation of that deformity. My belief that such might be the case was derived from studies that were made some years ago concerning the matter. There are a number of anatomic variations in the bones of the tarsus, as has been pointed out by the late Prof. Thomas Dwight of the anatomical department of Harvard. At the Harvard Medical School there are now a large number of radiograms of dissected feet, prepared under Dr.

Dwight's direction. They were practically all adults and sufficient data was available in reference to them for the purposes of this discussion.

The theory which had been suggested to me from the clinical observation of a number of cases of *hallux rigidus* was this: anatomic variations in the size or conformation of the bones of the tarsus seems the only reasonable explanation for the fact that the great toes of certain individuals gradually acquire incapacity for dorsiflexion when these individuals have experienced no traumatism and are not the subject of any arthritic diathesis. Furthermore, in practically every instance, these patients are so shod that the metatarsophalangeal joints of the first toes are situated immediately beneath the points of juncture of the vamps with the uppers. Sometimes in the same patient this will be true on one foot, whereas the other will show no tendency to rigidity of the toe and at this joint the juncture of the vamp and the upper will not be related, as they are on the side of the rigid toe. Inasmuch as *hallux rigidus* is caused by an hypertrophy of the bone on the dorsum of the distal end of the first metatarsal, it would seem that under the conditions present when the seam of a shoe presses continuously against this point while the foot is in action, and the "break" in the shoe, which necessarily comes opposite the point of flexure of the foot, will increase this pressure, the factors needful to produce such an hypertrophy as that which characterizes *hallux rigidus* are all present.

Long before these patients have any idea of the beginning rigidity of their great toe joints they often have had the skin rub off on the top of this joint while "breaking" in new shoes, and they are obliged to exercise great care in getting their feet fitted to shoes. More often than not this difficulty will occur with only one foot. Sometimes, I presume, where the patient feels that he can afford it and these difficulties arise in purchasing ready made shoes, he resorts to the custom-made shoe and, if he does so sufficiently early, possibly saves himself from any noticeable rigidity.

If, as I shall try to show, the anatomic variations in the lengths of the various tarsal bones are the cause of *hallux rigidus*, the question naturally arises, why do these not occur more often in women in whom these same variations must occur. I think the answer to this must be that the stock out of which men's shoes are made is so much heavier than that from which women's shoes are made that it offers more chance for traumatism. In addition to this, men use their feet more and harder than women, as a rule.

In looking over the series of radiograms which Prof. Dwight has taken of the bones of the feet, which I was permitted to see through the courtesy of the anatomical department at Harvard, there was seen by actual measurement to be variations in the comparative lengths of the bones of the feet, possessed of the same total length, amounting in

many cases to as much as $\frac{3}{8}$ in., though the average variations were probably not more than $\frac{1}{4}$ in. These variations were most notable in the lengths of the metatarsals. Furthermore, this difference was frequently observed between the two feet of the same individual, thus accounting for the fact that *hallux rigidus* is very often a unilateral deformity. Sometimes the phalanges showed the variation; rarely was it observed in the bones of the posterior tarsus.

If there are these differences in the lengths of the metatarsals and phalanges in persons who have feet of the total length, breadth and thickness that would make their feet conform to certain sizes of ready-made shoes, it is obvious that the "breaks" in the shoe cannot come at the points where they would come under ordinary circumstances if either the metatarsals or the phalanges have departed to any degree, however slight, from the usual. It is at once apparent that a difference of a quarter-inch in the length of the first metatarsal would make the metatarsophalangeal joint come at a different place in the shoe, and when the shoe had been worn long enough to have the "break" develop in the leather at that point of flexure, it will be seen that it comes close up to the juncture of the vamp with the upper. When this occurs at this place the stock is stiffer because it is near a seam where there are two thicknesses of leather stitched together with a double layer of lining. When the person comes up on his toes under such circumstances there is much more material to be crowded down against the joint, and the effect is multiplied by the number of steps the person takes. The osteoblastic cells in the area thus irritated proliferate, forming a bony overgrowth in this region, which mechanically obstructs the dorsal movement of the phalanx upon the metatarsal, and this, in turn, keeps the joint in a state of chronic irritability and spasm. Not being able to bend at the mediotarsal joint in a dorsal direction, this motion must be secured elsewhere and it is obtained at the first phalangeal articulation of the great toe. The evidence of this is seen in the hypermobility of this joint, and from the fact that the shoe usually shows a small round hole worn immediately beneath this articulation in the sole, for now the pressure in walking is brought under this joint instead of beneath the metatarsophalangeal articulation. There is generally a ridge on the dorsum of the shoe over the metatarsophalangeal joint, indicating where this articulation is thickened. If the deformity is unilateral, as is frequently the case, a comparison of the two shoes brings out these two points very quickly. It will almost always be noted that this ridge on the dorsum of the metatarsophalangeal articulation comes directly beneath or almost directly beneath the point where the seam marking the juncture of the vamp with the upper lies. It may happen, of course, that the particular pair of shoes the examiner sees on the patient may not show this, but further inquiry and examination may reveal

it in other shoes that the patient wears or has previously worn. It is not uncommon for the patient who suffers from this deformity to have a small shoe store in his possession, which represents his attempt to find relief in shoes for the troubles he has. As has been pointed out before, he has often had a good deal of trouble in getting shod, for the reason that a new shoe chafes the dorsal surface of the distal end of the metatarsal, and in breaking in a new shoe the skin is often abraded over this joint.

In the management of this condition several lines of treatment are open for consideration. The conservative treatment consists of custom-made shoes, so constructed as to give no pressure over the metatarsophalangeal joint, together with a plate fashioned after the manner of the ordinary flat-foot support, supplemented by a steel tongue, the width of the great toe on its plantar surface and nearly as long as the toe, which projects from the front of the plate and is, in fact, a part of it. This prevents any attempt at motion in dorsi-flexion at the mediotarsal joint, and therefore stops irritation of the cartilage and its consequent proliferation. The use of the plate will be unnecessary after five or six months, and the patient will generally find himself comfortable, and, with custom-made shoes, may expect to get on without further difficulty. This line of treatment is applicable to the earlier cases before dorsi-flexion is much restricted.

The more abnormal cases, where there is no dorsi-flexion, possibly require more radical treatment. This means operation. The ridge on the dorsum of the metatarsal is chiselled away or a regular Hütter operation is performed. In cases where there is ground to suspect any osteoarthritic diathesis the latter is preferable. An English orthopedic surgeon has excised the sesamoids beneath this joint for the relief of these symptoms with very gratifying results, it is stated, but just what surgical indication is met by such a procedure it is difficult to see.

The following cases are reported as indicating the results of treatment, operative and otherwise, and the pathological changes found.

CASE 1. Female, age 40 years. Complaints of pain in the right great toe on any great exertion, particularly while playing golf or tennis or dancing. Shoeing was also becoming more and more difficult on account of pressure of the shoe on the dorsum of the first great toe. On examination there was inability to dorsi-flex the great toe on the right foot whereas on the left it could be dorsi-flexed a few degrees, though not normally. Flexion is also partly restricted. On palpation there is a ridge on the distal end of the first metatarsal, which is tender to pressure and squares the end of the metatarsal so that the phalanx cannot ride upon the metatarsal, as it can when the former is normally shaped. The shoes show the failure of the phalanx to bend upon the metatarsal by wearing beneath the joint between the first and second phalanges instead of on the ball of the shoe. The trouble had been devel-

oping for a year or more and there was no sign of arthritis in any other joints.

Under ether the capsule of the metatarsophalangeal joint was exposed through an incision just to the outer side of the tendon of the extensor longus hallucis and about two inches in length. The tendon was pushed aside by blunt dissection and the capsule of the joint was incised by a cut at right angles to the skin incision and just at the base of the bony ridge on the metatarsal. This revealed a ridge of cartilage all across the end of the metatarsal, which stood up 3/16 in. above the level of the shaft and was soft enough to be removed with a chisel without the expenditure of much of any force. The removal of this permitted an increase in the motion of the toe in dorsi-flexion.

It was fully six months after the operation before the joint became non-sensitive and before the patient could enjoy the use of the foot at games or in dancing. Now, nearly a year and a half after the operation, there is practically no discomfort in use of the foot in any way or upon any motion, and dorsi-flexion is nearly, though not quite, normal. It was not possible in this case to recognize, on inspection, any anomalous development of the component parts of the tarsus or metatarsus.

CASE 2. Male, aged 45 years. Has always been a rather athletic individual, playing golf and tennis principally. As he grows older has noted more and more a tendency for the joints of the great toes to sprain on use, particularly when he engages in the games above mentioned. Also it becomes more difficult to shoe himself comfortably. On physical examination the toes seem rather short and the metatarsal appears rather long as compared with the total length of the foot. There is a noticeable ridge on the dorsal surface of the distal end of the metatarsal, and this causes in the shoes, after they have been worn a while, a notable prominence, which comes closely beneath the juncture of the vamp and the upper. On palpation this ridge is very conspicuous and is tender to pressure.

Careful attention to the shoeing makes the condition more comfortable, but still exertion causes considerable discomfort. There are no signs of arthritis in any of the other joints. A few of the terminal phalanges show the effects of playing baseball, in an enlargement of these articulations.

At operation, incisions similar to those made in Case 1 show a cartilaginous ridge projecting upward and backward from the articular end of the metatarsal. This stood away from the shaft of the metatarsal to such an extent that the blade of a blunt dissector could be passed beneath this ridge on its free edge to the extent of 3/8 in. before it touched the base of the ridge from which this lip projected, and the dorsi-flexion was increased about 15° by cutting away this overgrowth. Both great toes were held in extreme dorsi-flexion by plaster casts. Plantar flexion of the great toes was also restricted to a considerable extent. At the end of three weeks the patient was able to be about without discomfort, and two weeks later was wearing a shoe carefully chosen so as not to cause any pressure over the first metatarsophalangeal joints.

CASE 3. Male, aged 55 years. For many years the patient had been troubled with pain over the first

metatarsal joints when getting accustomed to new shoes. Gradually he became aware of the thickening over these articulations, and when first seen professionally because of this there was not only a marked thickening in this region and inability to dorsi-flex at this joint, but hyperflexion at the first phalangeal joints also. On account of the presence of a well-marked osteoarthritic tendency in other small articulations and a high grade arteriosclerosis, conservative treatment was advised. To carry this out, he wore for some time, with a good deal of relief, one of the "tongue" plates above described. These are likely to break unless tempered very carefully, and he became disgusted with them after a while because of this tendency, and gave them up. While he used them he was a great deal more comfortable, and when he decided to abandon them he resorted to custom-made shoes.

This condition, though not perhaps so common as hallux valgus, is quite as annoying. An early recognition of the indications of its existence, which may be suspected when the skin over the dorsal surface of the first metatarsophalangeal joint is habitually irritated while breaking in new shoes, will usually enable one to shoe himself as to check the development of more trouble. One result of the development of this rigidity is alteration in the ends of the metatarsals. This is in the nature of squaring the articular surface, which has the effect of limiting dorsi-flexion. Where this is the case, excision of the ridge on the dorsum will not increase dorsi-flexion very much, and in such cases a regular Hütter operation, as in hallux valgus, is better.

If there is an osteoarthritic tendency present it is best to keep away from surgery altogether.

When operative treatment is employed, the after-treatment is much the same as in hallux valgus and the convalescence is just about as long.

OBSERVATIONS ON THE USE OF THE DUODENAL TUBE FOR DIAGNOSIS AND TREATMENT.*

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(Continued from page 678.)

USE OF THE TUBE IN TREATMENT.

The duodenal tube of Einhorn was found very useful in a limited group of cases. It is not a method of treatment to be used as a routine in any large number of diseases of the stomach or bowel; it is a method for the exceptional case, and its use should be limited strictly to these. In this way we avoid using the tube when a simpler method of treatment would be better, and

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we are able also to obtain brilliant results in suitable cases which do not yield to other methods of treatment.

Many physicians have passed judgment on the tube without ever using it, and have been afraid to try it for fear its discomforts would outweigh its benefits, or because they believed they could get as good results in other ways. The discomforts of the tube are very moderate; it is not difficult or painful to swallow; the presence of the tube in the throat is slightly disagreeable, but makes no real trouble, and after the first few hours the patient gets accustomed to its presence. It is much smaller than the smallest stomach tube; the irritation in the throat is trifling and does not keep the patient awake at night. It has surprised many physicians to see the contented, happy faces of patients who are having duodenal feeding.

The use of the duodenal tube is often the best way to rest the stomach and keep the patient well fed. The skeptic finds this hard to believe, but it is true. I have repeatedly seen the same food taken with perfect comfort through the tube, which caused distress and vomiting when taken by the mouth. It is a safe, sensible method of treatment for a selected group of cases and deserves more general use. We are able to supply abundant food at the point in the digestive tract where it is easily digested and absorbed, and, also, to maintain nitrogenous equilibrium. This is the only form of artificial feeding in which it is possible to keep the balance of nitrogen. This is a marked contrast to rectal feeding, where hardly anything is absorbed except water and sugars, where only about 1-10 the necessary nitrogen can be given, and only about 1-4 the necessary food. With rectal feeding the patients lose weight rather rapidly, as a rule; with duodenal feeding the patients almost always keep their weight, and often make good gains in weight. With rectal feeding we can get in about 500 calories; with duodenal feeding usually 1500 to 2000 or over. The tube is not used more than a week or two, and then, with vomiting stopped and nutrition improved, rest and feeding by mouth follow.

INDICATIONS FOR USE OF THE DUODENAL TUBE.

An important use of the tube is in cases of persistent vomiting, "medical cases" in nervous exhausted persons, including pregnant women, where a reflex or toxic cause has upset the stomach seriously. I have restricted the use of the tube here to the worst cases, which resisted other forms of treatment, and used it as a last resort. Now I use the tube earlier and more often than at first. There were some failures, of course, but more brilliant results. I have not used the tube in "surgical cases" of vomiting, with obstruction, or immediately after operation.

Another important group are cases of severe malnutrition with loss of appetite, and perhaps vomiting, with low, atonic stomachs which are

dilated and unable to empty properly. This indication is not new, but I wish specially to emphasize it, as some of the most striking results have been obtained in this class.

Gastric and duodenal ulcer is another group of importance. Here opinions have differed greatly as to the value of the tube.

Some men have felt that it is the best of all treatment for ulcer, when the tube is well borne; that it should be used in practically all uncomplicated cases; that it saves time and increases the percentage of recovery. It is used on the theory that an ulcer heals better in a well-fed person with an empty stomach than in a starving one, or one whose stomach is doing the work of digestion.

Others use the tube only after a Leube or Lenhart treatment has failed; others have little or no use for the tube in ulcer, and think that those cases which do not yield to ordinary medical treatment should go directly to the surgeon; that the tube might distinctly harm the patient by causing hypermotility and secretion,—the two very things we wish to avoid in treating ulcer.

It is still a question how often to use the tube in ulcer. I have been quite conservative and used it only in a small group of cases, namely, in those which had resisted other medical treatment and in which no marked deformity or obstruction was present. The presence of hemorrhage, even if considerable, has not proved a counter-indication.

I have also used it in cancer of the esophagus, to relieve and prevent starvation. Here the tube had to be pushed down by means of a stylet over a silk thread guide.

Other less urgent indications have been proposed, such as lavage of the duodenum in duodenal catarrh, gall-stones, chronic jaundice, or cirrhosis of the liver, for the purpose of washing out inflammatory or infectious particles; also for disinfection of the bowel by inflation of oxygen through the tube. I have not felt that the indications were clear for the use of the tube in this group.

THE TECHNIC OF FEEDING.

This has been well described by Einhorn of New York and W. G. Morgan of Washington from their large experience, and their papers should be read. I am especially indebted to Dr. Morgan and Dr. Charles G. Stockton of Buffalo for valuable suggestions. There are many details of technic which must be kept in mind in order to get the best results and make the treatment a success.

We have used the Einhorn tube entirely for treatment, as here the patient is in bed and there is no special need for great speed in introducing the tube, and it is easy to retain for the period of treatment, which often lasts a week or two. It is sometimes desirable to use an extra long tube of 100 to 125 centimeters, which will pass about 25 centimeters beyond the pylorus. This was

used in certain vomiting cases to prevent regurgitation or vomiting of the tube, and in duodenal ulcer it is well, also, to have the tip of the tube well below the ulcer.

Various special syringes have been devised for introducing food through the tube. They are all unnecessary; the simplest apparatus is the best, and consists of a glass reservoir or can, with a hole in the bottom, and a rubber tube provided with a clamp and a glass drop tube, such as is used for the Murphy drop-method of giving fluids by rectum. I first used a thermos bottle as a reservoir, to keep the food at a constant temperature, but found that this was unnecessary. The duodenum is more sensitive to heat than to cold, and the main thing is not to have the food too hot. It should be 98° to 100° F.

The food is given slowly, 50 to 60 drops a minute, so that the feeding takes usually from 20 to 30 minutes. The rate of flow depends upon the patient; some require twice as long as others for a feeding. Patients should be watched at first during the feeding for nausea or discomfort, until a comfortable rate of feeding is found. In this time the food in the reservoir cools only a little, and is easily warmed before reaching the duodenum by passing down the long esophagus. If any additional warmth is required in a cool room, this is easy to arrange by placing a hot-water bag over the tube in bed between the reservoir and the patient. The pressure from the reservoir, hung two or three feet from the patient's head, easily forces the liquid food through the duodenal tube, if the latter is kept clean.

The standard foods for use through the tube are milk, eggs, cane sugar, or milk sugar and cream. It is better to strain the liquids that are used through several thicknesses of gauze. Eggs should be stirred up in the milk, not beaten. Milk sugar often irritates the bowel and has to be used sparingly or omitted. The best way is to begin with milk alone or mixed with egg, and not use the milk sugar until after a week. Eggs are sometimes not borne well; it is often well not to begin to use eggs for four or five days, then one-half of one egg may be added to every other feeding, and, a few days later, to each feeding. Cream may be given, from one to three ounces, every other feeding; broths are not very useful, they have little food value, and may clog the tube.

Eight feedings a day at two-hour intervals are the rule, beginning at 7 a.m., and ending at 9 p.m., starting with two or three ounces and increasing to six or eight ounces on the second day and eight or ten on the third. *It is very important after each feeding to inject an ounce of warm water through the tube, to wash it out, then a syringe full of air to drive out the water, and then to turn the stop-cock in the tube so that no milk can run back into the tube and coagulate and clog it.* Before feeding, inject one syringe full of air into the tube to empty it. It is very easy to keep the tube clean and in

good working order if these directions are followed.

The tube is easily kept in position with a small piece of adhesive plaster fastened to the cheek. It is well to remove the tube from one side of the mouth to the other once a day to avoid irritation. The mouth must be kept clean with a mouth wash.

It is better to test occasionally to see that the tube is in proper position; give the patient a few swallows of equal parts of milk and water by mouth, and then aspirate at once through the tube; if the withdrawn liquid is milky the tube probably is not in the duodenum; if clear yellowish or greenish, it is in the duodenum.

RESULTS.

The tube was used for treatment in 34 cases, namely, 10 with malnutrition, gastropnoia and atony; 10 of persistent vomiting; and 14 of gastric or duodenal ulcer. The group of cases is too small to warrant any sweeping conclusions. I shall simply give my impressions of the results of the treatment.

We have had some of the best results of duodenal feeding in the group of severe cases of gastropnoia with atony, with dilatation of the stomach and delay in emptying, when this was combined with loss of appetite and marked loss of weight. Ordinary cases of malnutrition were not fed in this way. The tube was reserved for the severe and exceptional ones, where it was hard to get in enough food by mouth. The object was to feed up the patient rapidly and restore the tone of the stomach and nerves.

In extreme cases it may take a day or two for the tube to pass the pylorus. In two cases of this group of ten the use of the tube was given up, in one because the tube remained in the stomach for four or five days, and in one because of distress. All the rest did well; gained from four to fifteen pounds during duodenal feeding, and in the majority of cases started a permanent gain of twenty to thirty pounds after the duodenal feeding was stopped. This use of the tube is not new, but ought to be emphasized, as it proved of great value in difficult cases.

In ten cases of persistent vomiting we have had some failures, but more brilliant results. These were chiefly "medical cases" in nervous women, where a reflex or toxic cause had upset the stomach seriously; one was pregnant. I have not used it in obstructive or surgical cases. In three the tube was vomited and its use stopped; in the rest the result was very satisfactory.

I expected all the cases to vomit the tube at once, and at first it was a great surprise to find that stomachs which did not retain a few sips of water, did retain the tube, and passed it on to the duodenum, and that patients could take with perfect comfort through the tube the same food which a short time before had caused distress and vomiting when taken by mouth. It is

possible that an unusual form of treatment may help some patients by mental suggestion. It is certainly encouraging to a nervous woman, who has vomited for days, to watch the comfortable inflow of a large amount of nutritious food. It is wise to use an unusually long tube in these cases, 100 or 125 cm., to prevent regurgitation into the stomach and vomiting.

It is especially useful if rectal feeding is not retained, and even when rectal feeding was possible, the results with the duodenal tube were far better for the reasons given above. I have come to rely upon it when other treatment fails.

In gastric and duodenal ulcer I have been very conservative in using the tube for treatment (possibly too much so). It was used only in cases without stenosis, or very marked deformity, which had resisted ordinary medical treatment, such as that of Leube or Lenhart, in short, it was tried only in a small and rather difficult group of ulcers.

The cases were all examined with the x-ray to determine the *position and size of the ulcer*. We have used the tube in good-sized ulcers of the duodenum, but only in small ulcers of the stomach, for fear of cancer. Dr. Wm. C. McCarthy of the Mayo Clinic has told me that the large majority of ulcers of the stomach which were excised and had a crater larger than a dime, showed malignant change.

In speaking of results, we must remember that the course of gastric and duodenal ulcers is almost always intermittent. Symptoms often disappear with poor treatment or no treatment at all. This makes it very difficult to judge accurately the value of any treatment.

Our results were as follows:

In one half of the cases, seven in number, the symptoms were stopped, and recurred in one only; in the other half, namely seven, the treatment did not succeed and surgery was advised. In two, small multiple ulcers were found; in three, small ulcers with considerable adhesions; two refused operation.

The results with the tube were good, considering the difficult class of ulcers treated; nearly one-half the group of hard cases were cured of symptoms when other medical treatment had failed.

The method gives the stomach almost complete rest, and at the same time nourishes the patient; where there is much spasm of the pylorus, the method is especially useful; in these cases there may be some delay in the passage of the tube into the duodenum, but this can usually be accomplished with a little patience, or with the help of a few doses of atropin. No real difficulties were met; the average length of feeding was fifteen days. It has also proved valuable in bringing up poor surgical risks to a plane where operation could be performed.

It must be added that men who have had far greater experience, such as Einhorn, Morgan and Stockton, have used it much more freely in

ulcer and report good results, in the saving of time, improved results in difficult cases, and avoidance of surgery. My experience leads me to use it more freely in the future, in a selected group of cases, where food by mouth is stopped on account of pain, vomiting or bleeding. If the tube is well borne, it is very much better than rectal feeding; instead of the steady and usually rapid loss of weight and nitrogen in rectal feeding, the nitrogen balance is kept, and the weight usually held or increased.

In two cases of inoperable cancer of the esophagus the tube was successfully used for stomach feeding to relieve starvation and prepare the patient for gastrostomy; there was rapid gain of weight of 16 and 18 pounds, respectively. It was difficult to get the tube in: a silk thread-guide was swallowed, and a special tube tip was threaded on the guide, and gently pushed in with a stylet; in two other such cases it was impossible to get the tube in.

SUMMARY.

The clinical use of the duodenal tube (introduced by Einhorn and by Gross in 1909-10) has proved its value in a limited field. It is a valuable contribution to medicine and deserves far greater use than is being made of it now. The tube was used by the author in 90 cases; in 56 for diagnosis, in 34 for treatment.

A fluoroscopic study of the technic of the introduction of the duodenal tube showed that by placing the fasting patient successively in simple postures, the tube may be introduced into the duodenum within one-half hour in a majority of cases, where organic stenosis is not present. Spasm of the pylorus, atonic and hook-shaped stomachs may delay the tube.

A heavy Gross tube enters the duodenum more rapidly than a light Einhorn tube. A small tube (No. 8 French), with a heavy tip of at least 100 grains weight (Palefski) is the best of all for diagnostic work. It is not difficult to tell the position of the end of the tube. It is as safe as an ordinary stomach tube.

In diagnosis, examination of the duodenal contents was most useful in diseases of the pancreas and in cases of chronic jaundice. It is the only method of directly obtaining the secretions of the pancreas and liver, and avoids many of the sources of error in other indirect tests, such as the Sahli capsule, Schmidt's nuclear test, the oil test-meal, or testing the feces for ferments.

There is considerable normal variation in the pancreatic ferments as determined by our present tests; only absence or marked diminution has much value in diagnosis.

Constant marked diminution or absence of trypsin was found (with one exception) only in chronic disease of the pancreas.

Examination of the feces on the Schmidt test-diet in some cases was almost equally valuable, and simpler; in others the examination of the duodenal contents was much more valuable.

In diseases of the liver, the value of the test in deciding whether the bile passages are completely or partly closed is limited by the lack of a satisfactory test for bile in the duodenal juice.

The duodenal tube is a convenient and comfortable means of obtaining stomach contents; and more reliable than the usual stomach tube for aspirating small amounts of clear fasting contents.

In treatment, the duodenal tube of Einhorn was very useful in a selected group of cases; it was very useful in cases of persistent vomiting of nervous and toxic type. Here an unusually long tube is desirable to prevent regurgitation into the stomach. It was also useful in certain severe cases of malnutrition, with anorexia and atonic stomach.

It was useful in a limited group of cases of peptic ulcer. It was used only in cases without organic obstruction and in those which resisted ordinary medical treatment. It was used several times to improve the patient's condition before operation in ulcer, also in two cases of cancer of the esophagus (stomach feeding).

Almost every case was improved by duodenal feeding, and in a considerable number the symptoms stopped.

It is superior to rectal feeding, as patients usually keep their weight or gain, and keep their balance of nitrogen. A reservoir and the Murphy drop-method is preferred to a syringe for introducing food.

REFERENCES.

- Bondi, S.: Die selbsttätige Drainage des Magens und Duodenums und ihre Anwendung für die klinische Diagnose, *Archiv für Verdau.-Krank.*, 1914, xix, p. 692.
- Brown, Thos. R.: Diastatic Ferment in Feces in Certain Diseases of Pancreas, *Johns Hopkins Bulletin*, July 15, 1914.
- Crohn, B. R.: The Diagnosis of the Functional Activity of the Pancreatic Gland by Means of Ferment Analyses of the Duodenal Contents and of the Stools, *Am. Jour. Med. Sci.*, 1915, cxiv, 393.
- The Chemical Examination of Duodenal Contents as a Means of Diagnosis in Conditions of Jaundice, *Jour. A. M. A.*, Feb., 1915, lxiv, p. 565.
- Chace, A. F., and Myers, C. C.: The Examination for Diagnostic Purposes of the Enzyme Activity of Duodenal Contents, *Archives of Internal Medicine*, 1912, xii, pp. 628-636.
- Einhorn, Max: New Method of Catheterizing the Pylorus and Duodenum, *Medical Record*, Oct. 9, 1909; A Practical Method of Obtaining the Duodenal Contents, *Medical Record*, 1910, Vol. 77, p. 98; Duodenal Alimentation, *Medical Record*, July 16, 1910; The Diagnosis of Chronic Duodenal Catarrh, *The Archives of Diagnosis*, N. Y., Oct., 1910; The Beneficial Effect of Duodenal Alimentation in Cirrhosis of the Liver, *Trans. of the Am. Gastro-Enter. Assn.*, 1913, p. 19; Indications for and Demonstration of the Method of Duodenal Feeding, *Post-Graduate*, 1915, xxviii, p. 550; New Instruments for the Duodenum and Small Intestine, *Medical Record*, June 21, 1913; Direct Examination of the Duodenal Contents (also Bile) as an Aid in the Diagnosis of Gall-Bladder and Pancreatic Affections, *Am. Jour. Med. Sci.*, Oct., 1914, No. 4, Vol. 146, 490; Recent Studies of Pancreatic Secretion, *Med. Record*, June 12, 1915; A Clinical Contribution to Our Knowledge of Chronic Pancreatitis, *Jour. A. M. A.*, July 10, 1915.
- Einhorn and Rosenbloom: A Study of the Duodenal Contents in Man, *Archives Int. Med.*, 1910, vi, pp. 666-676; A Study of the Nitrogenous Metabolism in Three Cases of Duodenal Alimentation, *Am. Jour. Med. Sci.*, 1911, cxli, p. 7.
- Enriquez, E., Amhard, L., and Binet, M. E.: Estimation of Pancreatic Secretion by Amount of Amylopsin in the Stools, *Semaine Médicale*, Paris, Jan. 13, xxiv, No. 2, pp. 13-24.
- Frank, F.: Ueber den Wert der Methoden zur Funktionellen Pankreasdiagnostik, *Arch. Verdauungskr.*, 1912, xviii, 121, 367.
- Gross, M.: A Duodenal Tube, *N. Y. Med. Jour.*, 1910, xci, p. 77; A Duodenal Tube, Second Communication, *Jour. A. M. A.*, April 23, 1910, p. 1365; Direct Lavage of the Duodenum, *N. Y. Med. Jour.*, 1911, xciii, p. 133; Kurze Bemerkungen über den heutigen Stand der Duodenalrinne und ihrer Anwendung, *Arch. f. Verdauungskr.*, 1914, xv, n. 238.
- Gross, M. H., and Held, I. W.: Duodenal Alimentation, *Jour. A. M. A.*, Aug. 7, 1915, lxv, pp. 530-523.

- Harmer, T. W., and Dodd, W. J.: Sources of Error in the Use of the Stomach Tube for Diagnosis, *Preliminary Note, Archives of Int. Med.*, Nov., 1913, xii, pp. 488-502.
- Holberg, K. A.: Determination of Pancreatic Ferment in Stools, *Jour. A. M. A.*, May 14, 1910.
- Hess, A. F.: A Duodenal Tube for Infants, *Am. Jour. Diseases Child.*, 1911, i, pp. 360-365; The Use of a Simple Duodenal Catheter in the Diagnosis and Treatment of Certain Cases of Vomiting in Infants, *Am. Jour. Dis. Child.*, Mar., 1912, iii, pp. 123-125; A Study of Icterus Neonatorum by Means of the Duodenal Catheter, *Am. Jour. Dis. Child.*, 1912, iii, pp. 304-314; The Pancreatic Ferments in Infants, *Am. Jour. Dis. Child.*, Oct., 1912, x, pp. 205-218; A Method of Obtaining Cultures from the Duodenum of Infants, *Jour. Infect. Dis.*, 1912, pp. 71-76.
- Holzknecht, G., and Lippman: Klinische Duodenalschlauchuntersuchung, *Münch. med. Woch.*, Sept. 29, 1914, lx.
- Jutte: Examination of the Duodenal Contents for Diagnostic Purposes, *Transduodenal Lavage*, N. Y. Med. Jour., 1912, xcv.
- Lazarus: Duodenal Sonde, *Berl. klin. Woch.*, 1912, xlix, p. 72.
- Lippman, C. W.: Simplification of the Duodenal Tube Examination, *Jour. A. M. A.*, Mar. 21, 1914, pp. 911-912.
- McNeal, W. J., and Chace, A. F.: A Contribution to the Bacteriology of the Duodenum, *Archives of Int. Med.*, 1913, xii, pp. 178-197.
- Okada, S.: Pankreassekretion bei Sekretionsstörungen des Magens, *Mitteilungen a. d. med. Fakultät der klin. Univ., Tokyo*, xiii, No. 1.
- Palefakt: New and Improved Duodenal Instruments and Technique of Speedy Intubation of the Duodenum, *N. Y. Med. Jour.*, Oct. 18, 1913, p. 751; Irrigation, Transillumination and Visualization of the Intestines by the Duodenal Tube, *N. Y. Med. Jour.*, July 17, 1915.
- Rosenberger: "Duodenal Therapie, *Med. Klinik*, 1913, 9, ii, p. 124.
- Wolf, S.: Duodenalsondierung, *Therapeutische Monatshefte*, Berlin, xxvii, pp. 825-888.

Clinical Department.

CHRONIC INVERSION OF THE UTERUS—REPORT OF A CASE.*

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Mrs. S., 23 years old, was delivered on March 23, 1915, by high forceps, the labor having been moderately hard. Some sewing was necessary to repair the perineum and nothing abnormal was noticed. A few hours after the delivery, there was a postpartum hemorrhage. The convalescence was then apparently normal. When the baby was two to three months old, there was some flowing, which was considered a normal menstrual period. A month later came a period with excessive flowing, on September 2 a very slight flow, and on September 12 another normal period, and on September 16 more excessive flowing.

On September 17 she was sent to me by Dr. Norton, to whom she had gone, having discovered an abnormal mass in the vagina. Dr. Norton recognized the condition, and tried without success to replace the uterus. The woman was then referred to me for operation.

Examination. The patient was a healthy-looking young woman. Examination was negative except for the pelvic organs. Inside the vagina was a mass the size of two thumbs side by side, covered with mucous membrane and easily bleeding. This mass protruded from inside the cervix, which made a loose ring about it. By bimanual examination no uterine fundus could be felt. The diagnosis of inversion of the uterus, therefore, seemed clear. The entire body of the uterus down to the region of the internal os had inverted through the cervix. On the next day, under ether, an attempt, which

* Read before the Obstetrical Society of Boston, Jan. 25, 1916.

failed, was made to reduce the inversion. The cervix offered no obstruction. The difficulty came from the uterus itself, its walls being too thick to permit of forcing it back through itself. A laparotomy was then done. There was no uterine body to be seen. It had inverted through itself and disappeared into the vagina. Into the depression the index finger passed down to the second joint, the cavity being of the right size to admit the finger. Double hooks were passed down into the cavity to the inverted fundus and unsuccessful attempts were made to pull it back into the abdomen. Attempts to get it back into position by pushing from below as well as pulling from above, also failed. The posterior wall of the inverted uterus was then divided by scissors. This opened the posterior cul-de-sac of the vagina. With the finger through this opening and a clamp on the wall of the inverted uterus, the fundus was turned back into position. The incision in the posterior wall of the uterus was then closed with two rows of catgut sutures, the first row being of chromic catgut with the knot inside the uterine cavity, the second one of chromic catgut pulling the peritoneum over the first row. The very lowest portion of the uterus was not sutured, leaving room for a wick down into the vagina. The abdominal wall was closed tight in layers.

During the first few days of convalescence, there was some increase in temperature, apparently due to congestion of the breasts, as at entrance into the hospital nursing had been suddenly stopped. The wick in the vagina was taken out in forty-eight hours. There followed a small amount of discharge for a few days. On October 2, when she left the hospital, the uterus was forward, movable, and the external os was perhaps a little large. She was seen again in December. She had had two normal periods. The uterus was found forward and movable.

In 1907, Peterson (*Surgery, Gynecology and Obstetrics*, 1907) covered the literature of chronic inversion of the uterus and published his statistics. It had been my desire to bring these statistics to date, but, after reading the reports of cases available, it seemed to me that this would be of very little value, inasmuch as no one man has had sufficient personal experience in this condition to speak of different techniques authoritatively. Each operator favors the technique used in his case, and reports the disadvantages of other methods of treatment. It, therefore, comes down to the personal preferences of the operator between vaginal and abdominal work. The surgeon who is accustomed to vaginal work will deal with his cases through the vagina, and he who prefers to go in from above will deal with his cases by a laparotomy. I doubt whether the difference in the method of approach is of much real importance, and agree with Peterson, from whom I quote, "Today any competent surgeon ought to be able to reduce the inverted uterus successfully by either way."

There are three methods of dealing with chronic inversion of the uterus: replacing the inverted uterus without operation; vaginal operative treatment; and abdominal operative treatment. Attempts to replace the inversion

without operation should always be made. They must be gentle and are rarely successful. Kronhaus, in an Inaugural Dissertation, 1911, reports a case where attempts resulted in tearing the vaginal wall so extensively that the bladder wall was exposed. He mentions a second case, where a vaginal hysterectomy was considered necessary, because the cervix had been so much traumatized.

There are several types of vaginal operation, according to the various sites of the incision. The principle in all is to divide the tissues sufficiently wide to permit replacing the fundus in position within the abdominal cavity. The incision is then sutured, and ordinarily the posterior cul-de-sac is drained. The vaginal operation may be made difficult by the presence of adhesions, which are hard to recognize from below. In a case by Gross (*Zentralb. f. Gynaek.*, 1907, vol. 31, p. 1433), reduction by vaginal incision was impossible because of the adhesions, and a laparotomy was necessary. After replacing the uterus by a vaginal operation, the body passed so high into the abdomen that Beckman (*Zentralb. f. Gynaek.*, 1914, vol. 38, p. 649) experienced great difficulty in placing the sutures. The question of infection plays a very important rôle in the consideration of these cases, for the uterus has been exposed so long that its lining membrane is usually infected.

Replacing it in the abdominal cavity may carry infection with it and result in a localized collection of pus or a peritonitis. In a number of cases it has been necessary to open secondarily the posterior cul-de-sac to allow the discharge of pus.

There is not much to be said in detail of the approach through the abdomen. By it one can see more distinctly the conditions which he is treating. The dangers of sepsis are equally as great as by the vaginal method, and the question of drainage is vital. It is to a laparotomy that many surgeons have turned after having experienced insurmountable difficulties by the vaginal approach.

The body of the uterus may have been exposed so long that it has undergone a microscopical change. Lemaire (*Bull. Soc. d'Obst. de Paris*, 1911, vol. xiv, p. 470) reports a case where the uterus had been down for eleven months. Its wall was so thick, hard, and sclerotic that, even after incision of the vagina, reposition was impossible. He, therefore, did a hysterectomy. Barboni (*Surgery, Gynecology and Obstetrics*, 1906, vol. iv, p. 125) mentions one where the inversion resulted in a fatty degeneration of the uterine wall. He did a hysterectomy.

The prognosis for future pregnancies appears to be poor. The mucous membrane of the inverted uterus seems to have been exposed so long to abnormal conditions that it has lost its normal functions. A few cases of pregnancies following chronic inversion are reported. Neugebauer

(*Zentralb. f. Gynaek.*, 1913, vol. xxxiii, p. 529) has collected eleven cases. There seemed to be no great difficulty with the birth of the child. Neugebauer's own case having a spontaneous delivery, but the delivery of the placenta gave difficulty, manual extraction being necessary in a few. Each of these cases had been operated upon by some method. In each the uterine wall had been rather extensively incised and sutured. In the presence of this scar each case was delivered without accident by vagina. This is interesting. It would seem to me that the best present-day obstetricians would prefer an abdominal Caesarean section before the advent of labor.

PREGNANCY AND LABOR FOLLOWING RESECTION OF OVARY.

By FREDERICK W. JOHNSON, M.D., F.A.C.S., BOSTON.

I REPORT this case to encourage those who do resections, where there is a chance of saving even a little healthy ovarian tissue.

The patient entered the Carney Hospital Dec. 11, 1913 (Case No. 1897) for the relief of backache and pain in both ovarian regions.

She was 24 years of age, married five years, and had had two children, the last one having been born two years previous to entering. The following symptoms date from the last confinement (2 years' duration): Irregular menstruation (once during this period went four months without menstruating), diminution in amount of flow and number of days, dysmenorrhea, profuse leucorrhea, burning and scalding during micturition. Gonococci not found. Last unwell, Nov. 23, 1913. Appendix removed five years before.

Diagnosis. Cystic left ovary. Ovarian cyst (right). December 13, 1913, the uterus was curetted. On opening the abdomen there were found chronic salpingitis of the distal half of each tube, an ovarian cyst of the right ovary the size of a hen's egg, a cystic left ovary, and the cecum adherent to the scar of the previous appendix operation. The ovarian cyst and eight-tenths of the left ovary were removed and the uterus suspended.

Pathologist's Report. Cystic ovary, dermoid cyst of ovary, and moderate hyperplasia of uterine mucosa.

Menstruation did not occur for three months after the operation. Was irregular (going over) until February 18, 1915 (2 years and 2 months). Flowed one day in March and April, 1915.

April 22, 1915, I found the uterus enlarged, both breasts enlarged and containing fluid and areolae darkened.

There were increased frequency of micturition, morning sickness, increased vaginal discharge and violet coloration of the introitus vaginae. She was "quite sick with fainting spells the first three months, but from then on was quite well."

November 26, 1915, she delivered herself of a nine-pound girl. Dr. J. S. H. Leard, who attended her, reported to me that the labor and convalescence were normal.

New Instrument.

A TABLE FOR THE REDUCTION OF DISLOCATIONS OF THE HIP AND OPERATIVE TREATMENT OF THE FEMUR AND HIP JOINT.*

By HENRY J. FITZSIMMONS, M.D., BOSTON.

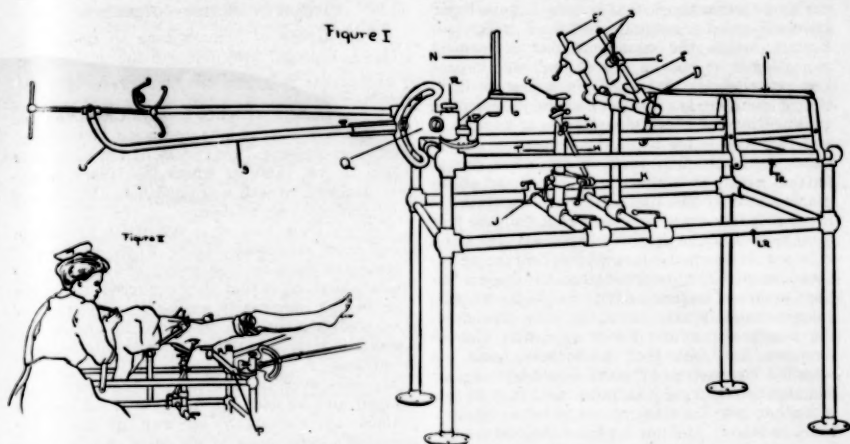
THE following illustrations and specifications are intended to place before the orthopedic surgeon a mechanical aid to more efficient work. In a previous paper the writer described a table designed to be used in the reduction of difficult congenitally dislocated hips. The table, after a year's use, showed that the principles upon which it was built were sound; but that certain of the mechanical details were faulty. The present table has been designed after study of the failures and difficulty of the past, and now has been used sufficiently to justify this report.

Motion and the proper amount of force, directed as desired and when desired, are absolutely essential to the permanent success of any form of mechanical help in the reduction of congenitally dislocated hips. The pelvis must be held absolutely, and the mechanics for doing so must be so arranged as not to injure the skin or soft parts. It is the author's belief that this has been accomplished, therefore the following description is respectfully submitted.

The table is made of standard gauge iron pipe, and is 24 in. wide, 32 in. high, and 48 in. long. The shoulder and head-rest 1 (Fig. 1) is made of sheet steel and is adjustable upon the top bars of the table Tr. It is shaped to fit the tapering of the lower thorax and to prevent incorporation in the upper portion of the plaster spica, which is placed to maintain the reduced hips after reduction. 3. The metal plates, which were modeled to fit accurately over the anterior superior spines and the iliac crests, are adjustable in all directions by means of the universal joint C, and the swing connection at D. The uprights E and F are carried upon the firm T, which is adjustable through its sliding possibilities upon the lower rail, Lr., thus accommodating to any length of body and permitting a more definite downward or sideways hold on the iliac bones. The sacral rest G is a plate upon which rests an individually fitted plate, modeled for each case, and which should include the posterior iliac spines. This is fitted loosely to and upon the firm Tr, which is made of tubing, carrying a worm, which gives adjustability in the perpendicular plane. This Tr is adjustable on the long diameter by its sliding possibility upon the lower bars of the table. This bar Tr also carries the trochanteric push II, which is adjustable through the sliding joint J and the ball and socket joint K. This adaptability permits the cap L to be placed beneath the trochanter and firm constant pressure exerted by means of the screw and worm at M, in any direction. The perineal posts N of two bars, fitted

* Demonstrated upon two cases before the Clinical Congress of Surgeons of North America, October 28, 1915, Children's Hospital, Boston, Mass.

Demonstrated before the Interurban Orthopedic Club, December 31, 1915, Children's Hospital, Boston, Mass.



with polished cuffs and the whole upon a perforated plate Q is adjustable forward and backward at P. Extension Q represents a casting which pivots around post R and allows motion in the horizontal and perpendicular planes with catch locks holding any position desired in these planes. S represents the traction arm and is 32 in. long, of tubing with a crooked arm U, which possesses at one end an ordinary winch screw for strong traction, and which maintains during use the direct relation with the long axis of the femur. The trochanteric push H, which may be raised or lowered on its post by means of thread bar and flange nut with bar M. The cup in which the trochanter rests is a loose fit upon H and easily removed by means of a string, which passes through a hole in the cup when it has been incorporated in the plaster.

METHOD OF REDUCTION.

The anesthetized patient is placed dorsally recumbent, with the head, shoulders and thorax upon the body-rest. The sacral-rest, with its previously prepared plate, is placed so that the sacrum and posterior iliac spines are supported. This position then is maintained by fixing the T on the sliding bars by its clamp nuts. The traction arm is then adjusted to its proper length with the traction in a direction parallel to the long axis of the femur. Slight traction is then started, so that the patient's symphysis pubis is snug against the perineal bars, which have previously been adjusted to accommodate to its length. The pelvic grips are now adjusted and fixed. Traction is now made slowly, in the line of the femur, until the muscles, whose shortness and contraction have partly prevented reduction, have been stretched, and the head is below the acetabulum. The trochanteric push is now adjusted, and either by direct push or as the fulcrum in a manual manipulation, the reduction should take place. The reduction having taken place, the leg is held in the desired

degree of abduction and rotation, with the trochanteric push in position and preventing dislocation. The traction arm and pelvic grips, with their uprights, are removed. Plaster is now applied smoothly, including the sacral-rest and the cup of the trochanteric push, which may be easily removed after the plaster has hardened.

The author and his colleagues at the Children's Hospital have now used the above table on several difficult cases, among which were a girl twelve years, double; a girl nine years, single; a girl fourteen years, double, whose weight was 132 pounds. All of these cases were reduced without trauma to the perineal regions and without the shock that is usually present in other forms of reduction. At present all hips reduced are in position.

Medical Progress.

REPORT ON OBSTETRICS.

By ROBERT L. DENORMANDIE, M.D., BOSTON.

OBSTETRICS A LOST ART.

CAESAREAN SECTION—OVERDONE.

MANAGEMENT OF THE PLACENTAL STAGE OF LABOR.

PITUITARY EXTRACT IN LABOR.

PREMATURE SEPARATION OF THE NORMALLY IMPLANTED PLACENTA.

THE RESPONSE OF THE SURVIVING UTERUS TO MORPHIN AND SCOPOLAMIN.

OBSTETRICS A LOST ART.

HOLMES' in a most interesting and timely article calls attention to the fact that at the pres-

ent time Caesarean section is becoming the operation of choice without sufficient indication. Holmes makes the statement that a surgeon, gynecologist or general practitioner who has not had experience in practice over a continued obstetric clientele, has not the mature judgment or qualification for the interpretation of conditions and indications for a Caesarean section and he states definitely that the evidence of a disproportion must be weighed, the character of the uterine activity must be estimated, the status of the soft parts must be considered and the surgical risks must be properly balanced. He states it is not so much the fact of the rupture of the membranes which determines an infection after the Caesarean section, as it is due to the vaginal examinations, which mean the introduction of the finger within the lower segment. Holmes deplors the fact that physicians have not schooled themselves to make necessary vaginal examinations during pregnancy, and then to limit further pelvic investigations to rectal explorations in labor. Holmes deplors the fact that so many Caesarean sections have been done for face, brow, occiput posterior, and transverse presentations which, when properly treated by the obstetric art, would have resulted successfully. Holmes reviews some of the reasons why Caesareans have been done and he comes to the conclusion that many of the indications are far-fetched. Many of the Caesareans should never be reported, for there was no real justification for their performance, and he rightly states that it is not proper for a surgeon, gynecologist or other, to lay down the indications for a grave obstetric procedure when these men perhaps have never had any obstetric experience.

His article is a welcome one to read and all who have the good of their patients at heart should read it in the original.

Holmes comes to certain definite conclusions in regard to Caesarean section. They are: that a contracted pelvis alone should be considered as a single and definitely permanent indication for Caesarean; (2) no Caesarean should be considered unless the baby is in good condition; (3) *per se* eclampsia, placenta praevia or other specious indications do not offer warranty for the operation; (4) all women with relative indication should be allowed to go into labor so that they may have a real test of the actual disproportion; (5) it is not wise nor expedient to let a patient with an absolute indication or where it is a repeated section to go into labor; (6) a Caesarean scar is a vulnerable point and, therefore, once a Caesarean, always a Caesarean; (7) Caesarean sections have been performed on inordinately broadened indications which are in many respects not defensible; (8) obstetric manual dexterity has been compromised by the development of Caesarean section; (9) one who has a mortality of five or more per cent. for Caesarean sections should revise his indications.

CAESAREAN SECTION—OVERDONE.

In an article of similar tone to the one of Holmes, Kellogg² also deplors the modern tendency of doing Caesarean sections without sufficient cause.

In his opening sentence he says Caesarean section is the most overdone operation in this community at present. He speaks of ten cases in which he was familiar which took place in private practice, in well equipped hospitals, and of these ten cases seven died.

Kellogg feels that it is not what proportion these cases represent of the whole number of Caesareans done by this group of men, but the important point is that they occurred within the year in this community among a small group of good obstetricians and, therefore, he argues that Caesarean section is not an operation to be lightly advised.

He goes over the indications that have been advised and he asks the question if on losing a patient by Caesarean on any of them, the operator's conscience in all cases can be clear. Unquestionably, Kellogg's article was written for the purpose of making men think before advising Caesarean, when there is no real indication for it. The obstetrician, general practitioner and the surgeon who will do a Caesarean on any case that he can get his hands on, will profit by reading this paper of Kellogg's in the original. That we can agree with all he says is not possible, but the object of his paper is excellent and we hope that it will accomplish what he desires.

MANAGEMENT OF THE PLACENTAL STAGE OF LABOR.

Polak³ at the Long Island College Hospital has studied for the past two years the physiology of the third stage of labor in order to determine first what is the normal and usual mechanism of placental delivery when the uterus is left entirely alone; second, are the clinical evidences of placental separation always apparent; third, what is the relative proportion of post-partum hemorrhage in cases in which the placenta is delivered spontaneously as compared with those bleedings following manual expression; fourth, in what proportion of cases is the placenta retained beyond the two hour limit; fifth, how long can the placenta be left *in utero* without danger to the mother and what are the dangers; sixth, what is the actual frequency of adhesion of the placenta.

His article is based on the placental stage of two thousand deliveries. Polak says that certain definite clinical changes indicating the separation of the placenta usually become apparent in periods from fifteen minutes to two hours. The changes are these: first, the cord descends, the fundus rises up and is found in the median line, the shape of the uterus becomes flattened backwards and the gush of blood escapes from the vagina. The hemorrhage then ceases as the uterus retracts. When these clinical evidences

of the separation of the placenta occur, the patient is asked to bear down and the placenta thereupon escapes from the vulva. If the pressure of the abdominal muscles is insufficient to effect delivery, then the uterus is grasped as in the method of Cr  d  , and stimulated to contract. Polak says he never attempts expression until after the clinical evidences of separation are definitely apparent. The only exceptions to this routine are after operative procedures during pregnancy or before term, which have demanded immediate delivery by anterior vaginal hysterotomy or otherwise, and at term in Caesarean section, or when the woman has been subjected to a long operative delivery under anesthesia. Under these circumstances he immediately expresses the placenta with the first pain, or removes it manually. In cases where there was no uterine manipulation, Polak says that separation, expulsion, uterine retraction with the expulsion of the placenta with its fetal surface downward, the cord leading the way, was observed and noted in all such cases.

In these two thousand cases that Polak bases his article on, bleeding occurred but three times though only two cases required tamponade of the uterus, and he speaks of the marked contrast of this record compared with the previous series when it was the routine practice to manipulate the fundus immediately on delivery of the child. Five times was the placenta retained more than two hours. Three of these were delivered by Cr  d  's expression under surgical anesthesia. One placenta remained detached in the cornu fully thirty hours, owing to a large myoma, located in the uterus, which acted as a ball valve obstruction. Expression in this case was futile, and rather than go through a lacerated and infected vaginal area, an abdominal hysterotomy and myomectomy was done. This placenta was not properly adherent but mechanically retained. In another case, the placenta was retained for 96 hours before separation occurred and expression was resorted to. The retention was due to the retraction of the lower segment following the use of pituitrin, which relaxed under surgical anesthesia and then permitted expression. In none of these retained cases was there any amount of vaginal hemorrhage.

Polak says the dangers of retention of the placenta are sepsis and hemorrhage, and he feels that hemorrhage is negligible while the placenta is attached or detached, that sepsis is dependent wholly upon intrauterine manipulation through infected passages and not upon the retention of products of conception. One adherent placenta was found.

Polak says statistics show that ten per cent. of patients with adherent placenta which have been removed manually die of sepsis. Polak feels that the physiological separation of the placenta is hastened if the uterus is not handled after the delivery, and he further states that uterine manipulation favors retention of the placenta and membranes by interfering with the

physiological processes. Interference with this physiological process allows an incomplete separation of the placenta and an incomplete retraction of the uterus to follow. Polak's conclusions are as follows: that the placenta will separate spontaneously if the normal mechanism is allowed to obtain; (2) that any manipulation of the uterus and clinical evidence of separation taking place disturbs this normal mechanism (3) post-partum hemorrhage is best guarded against by observation of the physiological processes; (4) that the normal mechanism of placental delivery is that where the fetal surface first appears; (5) that the placenta may be retained in the uterus for hours or days without danger to the patient provided it is attached or completely detached, which insures that the bleeding will be negligible; (6) that sepsis is dependent upon the penetration of the uterus by hand or instrument through the infected passages, and not upon the retention of the placenta; (7) that manual extraction is only admissible in partial separation with hemorrhage; (8) that in retention of the placenta without hemorrhage, the cord should be cut off close to the cervix and the case watched until the signs of separation are apparent when the placenta is then expressed while the patient is under surgical anesthesia; (9) that invasion of the uterus through the vagina is dangerous and intra-pelvic delivery should be abandoned and delivery accomplished by suprapubic extra-peritoneal hysterotomy; finally, when the adhesion is so great that its removal entails the taking out piece meal of the placenta, excision of the placental site or hysterectomy should be our choice.

PITUITARY EXTRACT IN LABOR.

Johnson* reports sixteen cases in which he used pituitary extract. He comes to the conclusion that the child must lie in the long axis of the uterus, that there should be no pelvic contraction and no obstruction. The os must be soft. The dose is 1 c.c. except in the inertia of multipara. It should be given in the buttocks and to get the best effect, should be at the end of the first stage with the membranes ruptured. He gives it as a routine dose, as it helps in causing the detachment of the placenta. In large doses he notices slight toxic condition in the child. He reports two cases where Burroughs Wellcome extract was used and where the effect was very rapid. One child was born in asphyxia pallida and shortly died. The second was also born in asphyxia pallida but survived.

Of the sixteen cases three babies were dead; seven babies showed marked cyanosis with rigidity and one of these seven had convulsions. Five babies were born in good condition. One of these sixteen babies was delivered by forceps after pituitary extract had failed.

Mosher⁵ in an article on the abuse of pituitary extract says, on the other hand, that pitui-

tary extract has no place in normal labor, nor in a case where there is any abnormality in presentation, and he says that the many writers who made such sweeping statements regarding the virtues of pituitary extract will lead the inexperienced practitioners into disastrous consequences for the mother or child.

He reports one case where pituitrin was used and a ruptured uterus was found. The woman died shortly after entrance to the hospital at Kansas City. Mosher definitely states that its sphere is a very limited one, not applicable in primiparae, or in any case of labor except where a delay is made at the pelvic outlet, especially in multiparae. He says that the diagnosis must be definite and the risks fully appreciated before it is decided to administer pituitary extract.

PREMATURE SEPARATION OF THE NORMALLY IMPLANTED PLACENTA.

Williams⁶ reviews the history and frequency of this condition. From his experience at the Johns Hopkins Hospital he feels that premature separation of the placenta is more common than placenta praevia. In the etiology of this condition Williams admits that trauma may be a factor, but that he knows nothing of the effect of mental emotions as a causative factor and that an endometritis if present, is merely an accidental complication, and finally that there probably exists some indirect connection between the toxæmic processes and the premature separation of the placenta.

In the symptomatology and diagnosis of this condition, Williams makes the point that while completely concealed hemorrhage is a very rare complication, ante-partum hemorrhage from this complication is quite as frequent as that due to placenta praevia. Whenever the examining finger is introduced past the internal os and fails to feel placental tissue, then the diagnosis of premature separation of the placenta should be made. He further insists that the amount of external hemorrhage is not necessarily an accurate index of either the degree of separation nor of the quantity of blood lost. He also directs attention to the altered consistency of the uterus. Whenever this organ presents a ligneous consistency in the latter part of pregnancy or early in labor, and does not alternate between contraction and relaxation, the diagnosis, he says, is partly assured. Williams says that valuable information as to the amount of blood lost may be obtained by changes in the hemoglobin content before the pulse gives any indication of the existence of shock.

He reports two cases, the first, a nullipara in her seventh month, who was seized without previous warning in the early morning with intense abdominal pain. Williams saw the patient at 9.30 A.M. and found her rolling about the bed and complaining of intense and constant pain. The uterus was unusually hard and tense and

did not alternate between contraction and relaxation. The round ligaments stood out like whipcords. Vaginal examination showed the cervix was hard and undilated. No vaginal discharge or hemorrhage. Pulse was 80. Patient was given morphia and sent at once to the hospital for observation with the probable diagnosis of premature separation of the placenta. At 11.30 A.M. the hemoglobin was 55%. At 2.00 P.M. patient looked pallid and sicker than before. The pulse rate unchanged, but the hemoglobin was now 35%. The uterus was ligneous in consistency and apparently larger than in the morning. No external bleeding. A positive diagnosis of concealed hemorrhage was then made and a Caesarean section decided upon as the most conservative method of delivery.

By the time the patient was ready for operation the pulse had risen to 160. Abdomen opened without incident. Clear amniotic fluid escaped under great pressure. The dead, seven-months child was extracted and immediately thereafter the completely detached placenta came into the wound, and upon removing it, a large amount of fluid and coagulated blood escaped. Examination of the uterus showed the whole right side to be dark purplish red in color. The median end of the right broad ligament was considerably swollen and also the lateral two-thirds of the tube. The uterus showed no tendency to contract. Two c.cm. of pituitrin were given and hot applications used and also the interior of the uterus rubbed with iodoform gauze, but all without effect. Williams then decided to remove the uterus, which he did without difficulty.

During the days following the operation the patient improved less rapidly than anticipated. In the evening of the fifth day the pulse became weaker and more rapid. She was then transfused, with only temporary benefit. She gradually improved, however, and in three weeks after operation left the hospital.

Examination of the placenta showed no white or red infarcts, maternal and fetal surfaces were normal except for a pronounced marginata. There was no coagulated blood adherent to its maternal surface. The uterus was found to be unusually flabby. The posterior surface of both margins, but particularly the right margin of the uterus, presented a bluish, purplish coloration due to the effusion of blood. Horizontal section beneath the insertion of the tubes showed that three quarters of the section presented a bluish, purplish appearance due to blood extravasation between the muscle fibres.

Microscopic examination of the placenta showed it to be perfectly normal. Microscopic sections of the uterus wall showed no traces of inflammation. At the placental site there was an unusual amount of fibrin and just beneath the decidua basalis, large quantities of blood lay free between the muscle fibres. Profuse hemorrhage was found throughout the muscularis. In places the blood had entirely disassociated the

muscle fibres, thereby explaining why the organ had failed to contract. The large veins were uniformly empty, but in the walls of many, free hemorrhage had occurred just beneath the endothelium and communicated freely with the hemorrhage effusion between the muscle fibres. In some of the smaller arteries the intima was swollen in places and projected into the lumen. In these areas peculiar defects were found which appeared as clear circular or elliptical zones. Throughout these areas nuclear fragmentation and a typical arrangement of the cells was observed. From the examination, Williams' diagnosis is premature separation of the normally implanted placenta, concealed hemorrhage, hemorrhagic infarction of the uterus, degenerative arterial changes.

The second case was an eighteen years old nulliparous patient, nine months pregnant, with albumen in the urine and some edema of the feet, on the first examination. In the following two weeks no albumin was found. Labor began one night and at six o'clock the next morning a gush of blood from the vagina appeared. Six hours later she was seen by the out-patient department and brought at once to the hospital. Examination showed considerable amount of dark red blood escaping from the vagina. Pulse 128. Blood pressure 100. Temperature normal and hemoglobin 32%. The uterus was so hard and boardlike that the child could not be palpated. No fetal heart sounds heard. Vaginal examination showed the os to admit one finger; cervical canal intact; no placental tissue felt.

Williams then did a Caesarean section and a condition similar to that observed in the first case was found. Here again because the uterus did not contract a hysterectomy was done. The convalescence was complicated by sepsis with mass formation which, when opened and drained, healed rapidly. The urine at the time of discharge showed signs, according to Williams, of a chronic nephritis.

Examination of the specimens showed changes in the muscularis and in the arteries similar to those observed in the first case.

Williams thinks that the arterial changes which were found are not mere accidental findings, but in all probability, were caused by a toxic substance which came from beyond the generative tract.

Williams concludes that (1) premature separation occurs much more frequently than is generally believed and may give rise to only trifling clinical symptoms, or may put the patient's life in the greatest jeopardy; that (2) the accident is associated with profound disorganization of the uterine muscle; and that (3) its causation is probably dependent upon some as yet undifferentiated form of toxemia.

Williams says that in general the decision to interfere will depend upon the amount of blood lost and the general condition of the patient. The method of interfering will depend upon the

patient's condition and the condition of the soft parts.

He closes his article with an excellent bibliography.

THE RESPONSE OF THE SURVIVING UTERUS TO MORPHIN AND SCOPOLAMIN.

Because of the wide employment of morphin and scopolamin in obstetrics, the authors¹ decided to study the action of these drugs upon the uterus. They used guinea pigs and cats; both non-pregnant and pregnant. The uterus was removed from a freshly killed animal and suspended according to Kehrer's method in continuously oxygenated Locke's solution. Solutions of varying concentrations were applied to the uterus. The results are shown in a series of tables and tracings and the conclusions the authors arrived at are that:

1. Morphin in concentrations of from 0.05% to 0.1% stimulates the isolated uterus to an increase in tone.
2. Scopolamin, in concentrations of 0.005% to 0.06% increases the tone of the isolated uterus. In this respect, therefore, it appears to be about ten times as powerful as morphin.
3. No inhibitory action upon the tone of the uterus could be obtained with either of the substances. Very high concentrations of either tend to produce a tetanic condition of the organ.
4. No synergism or antagonism could be demonstrated in the direct action of these drugs upon the uterus.

In another article by Barbour on the action of morphin and scopolamin upon the intact uterus, he concludes that neither morphin or scopolamin causes profound changes in the activity of the pregnant or non-pregnant uterus of deoecbrate cats, and that the statement that large doses of these narcotics inhibit the activity of the uterus, is not applicable to any direct action of these drugs upon this organ. The delay in labor produced by either or both of these drugs is probably due entirely to their cerebral action.

REFERENCES.

- ¹ Holmes, Rudolph Wieser: *Surg., Gyn., and Obstet.*, Nov. 15, 1915, Vol. 21, No. 5, p. 636.
- ² Kellogg, Foster S.: *Boston Med. and Surg. Jour.*, Vol. 174, No. 13, p. 455, March 30, 1916.
- ³ Polak, John Osborne: *Surg., Gyn., and Obstet.*, Vol. 21, No. 5, November 15, 1915, p. 590.
- ⁴ Johnson, R.: *Dublin Jour. of Med. Science*, Oct. 15, 1915, p. 241.
- ⁵ Mosher, George Clark: *Surg., Gyn., and Obstet.*, Vol. 22, January, 1916, p. 108.
- ⁶ Williams, J. Whitridge: *Surg., Gyn., and Obstet.*, Vol. 21, No. 5, p. 541.
- ⁷ Barbour, Henry G., Copenhaver N. H.: *Jour. of Pharmacology and Experimental Therapeutics*, Vol. vii, November, 1915, No. 4, p. 529; Vol. vii, November, 1915, No. 4, p. 547.

Reports of Societies.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

(Section on General Medicine.)

MEETING OF MONDAY, OCTOBER 25, 1915, AT 8.15 P.M.

DR. JAMES E. TALLEY, in the Chair.

REPORT OF A CASE OF TABES DORSALIS WITH PAINLESS GASTRIC CRISES; PRESENTATION OF PATIENT.

By Drs. EMERSON AND WILSON, SERVICE OF DR. DAVID RIESMAN.

The patient had several attacks, beginning August, 1915, of extreme nausea and vomiting without pain. Examination disclosed fixed pupils and absent knee jerks, and although syphilitic infection was strenuously denied, examination of the blood gave a very strongly positive Wassermann reaction. The importance of bearing in mind gastric crises in order to avoid, perchance, unnecessary operation was emphasized.

DISCUSSION.

DR. DAVID RIESMAN: We thought it of interest to bring this case before the Section on account of the importance, as emphasized by Dr. Emerson, of preventing surgical treatment in cases of this sort. Several months ago I saw a man who had been taken with vomiting and pain on a trip in the West. After his return to Philadelphia the vomiting continued and there was much abdominal pain. The man was 38 years of age, single, well-nourished and had always been healthy. He was seen by his family physician and a diagnosis was made of intestinal obstruction. Operation was advised, the surgeon had been called, but the man was too ill to have anything done. Upon examination I could discover nothing in the abdomen, which was almost scaphoid. The man presented a pathetic picture. I got him up with some hesitation. I thought his condition might be due in part to weakness and in part to ataxia. The knee jerks were absolutely gone. He recovered without much trouble. Whether or not the recovery was due to our treatment I do not know. He recovered under lavage and by our giving him virtually nothing to eat but buttermilk and albumen-milk in teaspoonful doses. The blood test gave a positive Wassermann reaction, and he then admitted that he had had syphilitic infection and had also had a salvarsan injection two or three years before. More recently we made spinal puncture when the fluid gave a positive Wassermann reaction. The man has minimal signs of tabes dorsalis. It is noticed that after the attacks subside there is a suggestion of movability in his pupils. Upon looking up this particular point I found that in attacks of gastric crises the pupils, which may not have been entirely fixed, become fixed, and afterwards may attain a slight degree of movability. This was the case in our patient at Blockley and in the case of which I have just spoken. The two points to be emphasized regarding the case exhibited are: (1) The existence of painless gastric crises; (2) the fact that in all cases of vomiting in the

young and in not too old persons, one ought, if there is no visible cause, to bear in mind the gastric crises of locomotor ataxia, whether there be pain or not.

DR. ALFRED GORDON: I have seen cases of tabes with so-called crises, but without pain. I remember two cases of laryngeal crises consisting of a sense of contraction with hoarseness and inability to emit sounds. Crises do not always mean a sudden onset of a condition with pain. While in tabes the crises are usually painful, if we read all reports of cases of tabes with so-called crises we shall find there are sudden attacks of a condition dependent upon the organ involved, and that pain is not a necessarily accompanying element.

TWO CASES OF BRONCHIAL ASTHMA TREATED BY VACCINES.

DR. T. G. SCHNABEL: The first cases showed no benefit by the use of a number of autogenous vaccine preparations. The second was relieved completely of symptoms by the use of only one of a number of vaccine preparations. This contained only, in addition to the organisms found in the other preparations, an unidentified streptothrix. Relief lasted for three weeks, when there was a slow return to the former asthmatic attack. Nothing but opiates had given these patients any comfort. Numerous efforts were advised to obtain the offending organisms in a given case of asthma. The vaccines combined with the proper operative procedures may be of some benefit.

TREATMENT OF DIABETES WITH SPECIAL REFERENCE TO ALLEN'S METHOD.

By DR. ALFRED STENGEL AND DR. L. JONAS AND DR. J. H. AUSTIN.

In the treatment of diabetes mellitus in the wards of the University Hospital it has been found that the majority of cases become sugar-free within a week when placed upon a carbohydrate-free diet consisting of eggs, bacon, meat, cheese, butter, cream, olive oil, broth, coffee, tea, lettuce and green vegetables. This diet contains no bread of any kind. It contains about 80 gms. of protein, 190 gms. of fat, 3 gms. of carbohydrate exclusive of that in the green vegetables, and 2200 calories. The prompt disappearance of sugar from the urine upon this diet occurs frequently in cases that have been for some time under treatment without avail before admission. The results obtained in the ward we attribute chiefly to two factors: (1) absolute rest in bed; (2) the avoidance of any form of "diabetic" bread. When the patient's tolerance improves sufficiently, bread of the ordinary kind rather than a "diabetic" bread is permitted in strictly limited amount. For the severer cases, especially in young individuals, Allen's treatment has been found of great value. Prompt disappearance of the glycosuria and equally prompt reduction of the ketones in the urine to less than three grams per day, has been secured in a series of cases in from two to four days of fasting with alcohol. Only a very moderate loss of weight occurs during the fast and there is a prompt restoration as a rule upon resuming feeding. The patient often bears the fasting better than the previously restricted diet. A second period of fasting has in some instances resulted in an increased subsequent tolerance for food. We find that while

Allen's treatment is desirable in only a small proportion of all diabetics, it affords a means of shortening the first stage of the treatment of those diabetics who do not promptly become sugar-free when placed upon a carbohydrate-free diet, and is the most effective treatment for the severe cases of diabetes exhibiting high ketonuria.

DISCUSSION.

DR. ALFRED STENGEL. The history of this case emphasizes the slowness of recovery of the carbohydrate tolerance in these patients. I have had experience with one case which I think I might be permitted to regard as a definite cure. The patient was a young man admitted under my treatment before the Allen treatment came into vogue. There was an output of 690 grams of sugar in some 8000 c.c. of urine a day. He has now been free of any sign of sugar in the urine for about eighteen months. In prognosis it has been my experience that, when there could be traced a connection between the onset of the diabetes and recent recovery from a severe infectious disease, generally speaking, the prognosis is somewhat favorable. I have now under my care a patient who a year ago developed sugar in the urine from what appeared to be a sharp infection. We have been able to render him sugar-free without resorting to the Allen treatment.

DR. JOSEPH SAILER: One point upon which Allen lays emphasis is that diabetics have a certain caloric tolerance and that if this tolerance is disregarded distinct injury is done, bringing about a return of the glycosuria and polyuria. I infer that this effect is dependent upon a certain amount of impairment of the pancreatic function and inability to assimilate food. Allen, therefore, desires to keep the patient at a low level of fat.

DR. DAVID RIESMAN: The Allen treatment does mean, I think, an epoch in the treatment of diabetes. Under Allen's theory we have taken a new departure and are treating cases upon a more intelligent basis. We put the patient in a position to be cured by gradually raising the carbohydrate tolerance. I have tried the Allen treatment in three cases, and in every instance the sugar disappeared from the urine in an unusually short time. In one case, the patient was so delighted with the result that he would not stay in the hospital. He did not adhere strictly to the diet and in less than three months he died. If the Allen treatment has done one thing more than another, it has enabled us to work a great deal better with our intelligent patients.

DR. JAMES E. TALLEY: A question of special interest I think is the juvenile case. I have in mind a boy of fifteen who had had diabetes for a year when I first saw him. During the first six months of treatment under the ordinary procedures he did fairly well. There was then a change and he was headed straight for coma. This was after Dr. Allen read his paper in Washington, and I took up the question with the boy's father. He came into the hospital, and it took eight days under the Allen treatment to get him sugar-free. One thing which impressed me was the voracious appetite of the patient. Under the old regime he did very well for a few months, and the Allen treatment has saved

him for the time being. What the ultimate outcome will be we cannot tell.

DR. S. SOLIS COHEN: Eighteen months ago I saw a girl between the ages of 13 and 14, who was said to have had sugar in the urine for a long time. There was no acetone, no diacetic acid; there was much emaciation. She was put into the hospital for a week under rest, and the sugar disappeared. She was kept under observation for a month before she was allowed to go home. I saw her again a year later. The sugar had not returned nor had it been found by the local physician. I am inclined to think that perhaps we have in children, as well as in adults, transitory glycosuria which is not diabetes. I have seen no severe case of diabetes in such a young person with ultimate recovery.

DR. JAMES TYSON: I have lived long enough to have passed through a great many of the cures for diabetes. At one time I was quite a believer in the utility of milk as a diet in diabetes, and skimmed milk, too, but I learned that milk behaves differently with different diabetic patients. As a result of my experience I have come to use it almost not at all. A valuable feature of the Allen treatment is the wonderfully encouraging effect which the report of the disappearance of sugar has upon the patient.

INTRATHECAL INTRACRANIAL INJECTIONS OF AUTO-NEOSALVARSANIZED SERUM FOR UNUSUALLY SEVERE AND PERSISTENT HEADACHE OF SYPHILITIC NATURE.

DR. ALFRED GORDON: The relative value of various forms of treatment of syphilitic affections of the nervous system is discussed, and the conclusion drawn that auto-salvarsanized serum is the best method. I have used the method in 100 cases. The reasons for the small success or failure of the treatment in paresis and other syphilitic affections of the brain are given and attention called to the experimental work of Campbell with trypan blue. It would seem that the flow of the fluid is spinalward, but not in an upward direction, and this is the chief reason of insignificant results when the intraspinal route alone is employed. The history of the patient upon whom the intracranial method was so satisfactorily employed is, briefly, as follows: A man of middle age contracted syphilis at the age of twenty-five. Two years ago he began to suffer with headache. The pain affected the neck, occiput and left parietal region. The man also presented optic neuritis, plus knee-jerk and involvement of the sphincters. The diagnosis was cerebrospinal syphilis. The Wassermann was positive. The man at first had five intravenous injections of salvarsan. When he came under my care he was treated intraspinal, had seven intradural injections, but there was no relief from headache, although the spinal symptoms were improved. For continued intense pain in the left parietal region a decompressive operation was done. A somewhat thickened bone was found and grayish particles were seen on the dura. The headache was somewhat improved but soon returned with the same severity. I finally decided upon an intracranial subdural injection of neosalvarsanized serum which was followed by most satisfactory results. At the present time, about six months since the treatment, there has been no recurrence of pain.

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DEATH OF TWO VENERABLE PHYSICIANS.

In the issue of the JOURNAL for April 20 we commented editorially on the longevity of a remarkable group of four nonogenarian physicians. One of these, Dr. Samuel Franklin Coues, the second oldest living alumnus of Harvard College, and senior graduate of Jefferson Medical College, died at Cambridge, Mass., on May 1, 1916. He was born on Sept. 17, 1825, in Portsmouth, N. H., and graduated from Harvard in 1845. In 1849 he received his medical degree, and on Feb. 25, 1851, entered the United States Navy as assistant surgeon. He served throughout the Civil War, was made medical director on Aug. 13, 1876, and retired with that rank in September, 1887. Since that time he had lived in Cambridge. He was a Fellow of the Massachusetts Medical Society. He is survived by his three sons, one of whom is a Boston

physician, and a frequent and valued contributor to the JOURNAL.

It is singular that almost simultaneously with Dr. Coues' death should have occurred that of the senior alumnus of Yale College and Medical School, Dr. David Fisher Atwater. Dr. Atwater was born at North Branford, Conn., on Oct. 29, 1817. He received the degree of A.B. from Yale in 1839, and that of M.D. in 1842. After spending twelve years in the practice of his profession at Brooklyn, he removed to Bridgeport, Conn., and later to Springfield, Mass., where he died on May 2, 1916. He is survived by one daughter and one son.

IMPORTANCE OF THE MOSQUITO.

SOME interesting figures are given in the report by R. H. von Emdorf, surgeon in the United States Public Health Service, on the prevalence of malaria in certain of the Southern States. Blood smears were examined for the presence of the malarial parasite. In a total of 13,526 examinations, 13.28% were positive; that is, one out of every 7.6 persons examined, was found to be a carrier. The percentage of infection among the whites was 8.8% and that among the colored 20.6%. The percentage of carriers was highest in children between one and three years of age inclusive. Two cases of tertian malaria were found to every one of the estivo-autumnal type; only two pure quartan and one mixed quartan and tertian were found in a total of 2391 infections. It is estimated that one out of every four infected persons harbors the sexual forms necessary for infecting a malaria bearing mosquito. Thus on an average, one person in every thirty-two (of the 13,526 examined), would be a potential malaria carrier.

The importance of this disease is suggested by the percentages of infection, which varied from 7.8% in North Carolina to 31.2% in Mississippi. The economic loss directly attributable to malaria is not to be disregarded. In one small area in North Carolina supporting a population of 4100, mostly whites, 200 people were sick in bed with malaria during October 1 to 5, 1913; in the month of September, 1913, one cotton mill in this district averaged 25 idle looms per day because of lack of help. An anti-malarial campaign was instituted; swamps drained, ditches oiled, malaria carriers hunted up and treated.

On October 1, 1915, only one person was sick in bed with malaria; the mills were running every loom and the proportion of people found infected had decreased from 13.75% to 4.45%.

In the North this problem is not so acute; it is, nevertheless, one which should be handled intelligently. Prevention of the spread of the disease is, of course, achieved by the extermination of the anopheles mosquito. New York has recently had an anti-mosquito week during which every one was exhorted to clean out puddles, rain barrels, old tin cans and broken bottles in which these insects might breed. The mosquito, like the fly, has been looked upon as a legitimate scourge with which we must bear. Now that he is assuming an economic importance we are realizing that, after all, something can be done with reasonable prospect of success to limit his malign activities.

NEW VIEWS ON AN ANCIENT PROBLEM.

THE "Final Report of the Royal Commission on Venereal Diseases," as summarized in the April number of the *Edinburgh Medical Journal*, shows care in its compilation and conservatism in its recommendations. The latter, thirty-five in number, bear upon the subject from five different points. First of all, there should be available accurate statistics regarding the incidence of venereal disease. The Commission does not advocate any system of notification of these diseases at the present time; it does advise the confidential registration of causes of death, the notification of cases of still-birth occurring before as well as after the 28th week, a uniform system of records of sickness in hospitals and poor law establishments, and an accurate record of the number of cases supplied with free salvarsan or its substitutes, or treated for venereal disease in institutions partly supported by grants from the National Exchange.

Considerable emphasis is laid on the prevention of venereal diseases by education of the individual. The Commission recommends that "more careful instruction should be provided in regard to moral conduct as bearing upon sexual relations throughout all types and grades of education. Such instruction should be based on moral principles and spiritual considerations,

and should not be based only on the physical consequences of immoral conduct." Instruction of this kind should be given students before leaving school, and should be provided in evening schools, factories, workshops, and in the Army and Navy. In elementary schools, detailed instruction in class on sexual matters should not be undertaken.

In the diagnosis of venereal diseases, the best facilities should be provided. The county should serve as a unit for this purpose, and the laboratories of universities and hospitals should be freely utilized. The cost of this service should be met as to 75% from Imperial funds, and as to 25% from local rates.

It is in regard to the treatment of venereal disease that the Commission advises the most radical changes. Good and sufficient treatment for all who need it, administered under reasonably agreeable conditions, and if necessary, at the public expense, is their recommendation. Medical students must be trained in the proper management of these diseases; evening clinics should be established for the working classes; the best modern treatment should be instituted in poor houses and prisons. All advertisements of remedies for venereal diseases should be prohibited, and to every patient suffering from either syphilis or gonorrhea, should be given regulation cards bearing appropriate directions for the prevention of contagion, and for the hygiene of treatment.

The relation of venereal disease to the community is dealt with in the recommendation (to which two commissioners dissented) that the detention of poor law patients suffering from venereal disease should be made possible. The Commission recommends further that it be made lawful for a medical practitioner to communicate with a parent, guardian, or other person directly interested in the welfare of a woman or man, with the object of preventing or delaying a marriage with a person who is in an infectious condition from venereal disease, and that statutory recognition be given to the principle that infectious venereal disease constitutes an incapacity for marriage.

The perusal of these recommendations reminds one of a page from the second part of "New Worlds for Old." The difference between such a carefully thought-out plan as this, and the entire lack of policy with which, in the past, those suffering from venereal diseases have been allowed to vacillate between the quack and the

"friend who works in a drug store" seems tremendous. The old order changes, however, and already we have a number of the preceding recommendations carried out by private initiative. The evening clinic, the much-maligned "follow-up system" of the larger hospitals, the diffusion of knowledge concerning venereal disease—all exert their influence upon the victim of venereal disease, and persuade him to continue treatment until he is no longer infectious. The State is now providing aids to diagnosis; the next logical step is the provision of adequate facilities for the treatment of cases in the infectious stage.

THE TRUDEAU FOUNDATION.

WHEN the history of medicine in this country shall be written, Edward L. Trudeau will be named as among those who have materially influenced medical progress. It was he who showed the possibilities of sanitarium treatment, and instituted a movement for the segregation, and often the cure, of the tuberculous—a movement the importance of which is not yet appreciated by the nation to which it means so much. Himself an invalid from this disease, his sympathy was especially great for doctors and medical students who were similarly afflicted. At Saranac Lake they were given every encouragement, not only to regain their health, but to take advantage of their misfortune by studying in the laboratory and clinic of the Adirondack Cottage Sanitarium the disease in which they were so vitally interested. Trudeau hoped that, through research into the nature, causes and treatment of tuberculosis, a cure would ultimately be discovered.

In order to carry out his plans in this respect, to provide instruction in the best methods of caring for tuberculosis, both from the social and from the medical point of view, and to offer to young physicians who are undergoing treatment for the disease, fellowships which will allow them to engage in research work, the Trustees of the Adirondack Cottage Sanitarium at Saranac Lake announce the formation of the Edward L. Trudeau Foundation. They hope to raise a fund, the income of which will amount to at least \$25,000 a year. Such a Foundation would indeed be a fitting memorial to a noble life.

MEDICAL NOTES.

MEETING OF THE AMERICAN ASSOCIATION OF ANESTHETISTS.—The fourth annual meeting of the American Association of Anesthetists will be held at Detroit, Michigan, on June 12, 1916. The program will consist of the following papers:

President's Address, Instruction of Medical Students and Hospital Internes in Anesthesia.

Team work. Charles W. Moots, Toledo, Ohio.

Some Bodily Changes During Anesthesia. F. C. Mann, Mayo Clinic, Rochester, Minn.

Anesthetic Records and Statistics of Anesthesia. Albert H. Miller, Providence, R. I.

Why Spinal Anesthesia Fails. F. Wayne Babcock, Philadelphia, Pa.

Essence of Orange-Ether Sequence by the Closed Method. I. D. Kruskal, Brooklyn, N. Y.

Alcoholism and Drug Habituation as Complicating Factors of Anesthesia. F. H. McMecham, Cincinnati, Ohio.

Experimental Research into Nitrous Oxid and Ether in Special Reference to: a. Certain Effects on the Organs of the Body; b. Certain Relations to Normal Sleep; c. Certain Relations to Infection. George W. Crile, Cleveland, Ohio.

Anesthesia in Epileptics. Walter H. Mytinger, Cincinnati, Ohio.

Ether-Oil Colonic Anesthesia. Walter Lathrop Hazelton, Pa.

On the Signs of Shock and its Complications Before, During and After Operation. Joseph C. Bloodgood, Baltimore, Md.

Physiology of Colonic Anesthesia. Walter S. Sutton, Kansas City, Mo.

Chloroform-Ether Sequence, with Summary of Results to Date. Ralph P. Beebe, Kalamazoo, Mich.

Some Observations on the Relation of Blood Pressure to Anesthesia. Mary V. Madigan, Portland, Oregon.

Relative Values of So-Called Warmed and Unwarmed Ether Vapor. Benjamin Franklin Davis and Franklin B. McCarty, Chicago, Ill.

The nominations for officers for the coming year are:

President, Walter M. Boothby, Boston, Mass.; vice presidents, F. W. Nagel, Montreal, Can.; Albert Miller, Providence, R. I.; Mary E. Botsford, San Francisco, Cal.; secretary and treasurer, James T. Gwathmey, 40 East 41st St., New York, N. Y.

DEATH RATE IN NEW YORK CITY.—The figures compiled by the Department of Health show that the death rate in New York City for the week ending May 1, was .80 lower than the corresponding week of 1915, the rates being respectively, 14.83 and 15.63 per one thousand of population. This decrease is equivalent to a saving of 86 lives. In other words, had the death rate of the week ending May 1st, 1915, prevailed during the past week, 1674 deaths would have occurred instead of 1588.

Still more gratifying is the fact that the death rate for the first eighteen weeks of 1916, is 15.44 as compared with 15.65 for the corresponding period of last year. The mortality of the following diseases showed noteworthy decreases: measles, scarlet fever, diarrheal diseases, pneumonia,—both lobar and broncho, pulmonary tuberculosis and heart disease.

The following causes of death showed slight increases: diphtheria, croup, whooping cough,

digestive diseases, cancer, bronchitis, nephritis and diseases of the nervous system.

Practically the entire saving of life was among the group under five years of age.

A RESOLUTION IN REGARD TO THE KENT BILL.—The Executive Committee of the National Association for the Study and Prevention of Tuberculosis has passed the following resolution:

1. Resolved. That the participation of the Federal Government in the study and control of tuberculosis problem is desirable and necessary.

2. Resolved. That the proper Federal agency for this purpose is the U. S. Public Health Service.

3. Resolved. That a careful study by the U. S. Public Health Service of the tuberculosis situation throughout the country, including the subject of non-resident indigent tuberculous patients and of all the other factors entering into the causation, treatment and prevention of tuberculosis, should be the first step in the Federal participation in the solution of the problem.

4. Resolved. That for the purpose of making such a study and for the further purpose of standardizing, so far as possible, the care, treatment and prevention of tuberculosis throughout the United States, there should be established in the U. S. Public Health Service, a division of tuberculosis.

5. Resolved. That for the purpose of aiding in such study the United States Public Health Service be authorized to appoint an Advisory Commission to consist of physicians and laymen.

6. Resolved. That the Executive Committee of the National Association for the Study and Prevention of Tuberculosis pledges its coöperation in carrying into effect the plans above mentioned, and will place all facts in its possession at the service of the United States Public Health Service.

MOSQUITOES IN THE MOVIES.—As part of the educational work campaign carried on recently to rid New York of mosquitoes, the Health Department's Bureau of Public Health Education has prepared motion pictures giving the complete life history of the insect. These pictures are now being shown in the larger movie houses and will eventually appear in every moving picture theatre in the city.

At the Department of Health, reports were received from the squad of sanitary inspectors sent out to discover possible mosquito breeding places in and about dwelling houses in the city. Nearly a score of obstructed roof gutters were discovered in one small district on the East Side. In Brooklyn and Queens littered back-yards were found to be a frequent source of trouble. Staten Island yielded relatively few sanitary violations, a fact which was ascribed to the persistent mosquito work which has been carried on in that borough.

PREVALENCE OF RABIES.—From having been a comparatively rare disease ten or fifteen years ago, rabies has come to be alarmingly prevalent among the dogs in New York City. In 1907, there were only three cases of rabies in animals in the Borough of Manhattan; last year there were 36, an increase of 1200 per cent. During 1914 the number of mad animals in the Borough of Manhattan reached the alarming total of 150. This led to the enactment of the present dog-muzzling ordinance, strict enforcement of which is bound gradually to eradicate this dangerous disease from this city.

The incidence of rabies in New York City for the past nine years may be judged from the following statistics:

YEAR	DOG BITES REPORTED	RABIES IN DOGS	RABIES IN HUMAN BEINGS
1907	1104	37	28
1908	4622	104	16
1909	5168	57	7
1910	3792	75	7
1911	4509	212	11
1912	4192	230	6
1913	4306	139	8
1914	4462	318	8
1915	3648	113	1

UNITED STATES CIVIL SERVICE EXAMINATION.—Assistant epidemiologist (male), \$2000-\$2500. June 6, 1916. The United States Civil Service Commission announces an open competitive examination for assistant epidemiologist, for men only. From the register of eligibles resulting from this examination certification will be made to fill vacancies in this position in the Public Health Service, at salaries ranging from \$2000 to \$2500 per annum, and vacancies as they may occur in positions requiring similar qualifications, unless it is found to be in the interest of the service to fill any vacancy by reinstatement, transfer, or promotion.

The duties of this position will be to make epidemiologic and sanitary surveys to determine the prevalence and causation of disease, to conduct laboratory studies in relation thereto, and to recommend measures to prevent and control outbreaks of disease. Further information may be obtained from the United States Civil Service Commission, Washington, D. C.

OPERATION OF FOOD AND DRUG ACT.—It is reported that bills of information have been filed in the United States District Court by the district attorney against the C. I. Hood Company and the Red Cross Chemical Company. The former concern, selling Hood's Compound Extract of Sarsaparilla, is charged with making unfounded claims for its product. The latter concern sells a disinfectant and deodorizer which it declares to be a satisfactory disinfectant, if a small quantity is added to two gallons of water. This statement the government takes exception to.

DEATH RATE OF THE COLORED POPULATION.—From a study of the comparative death rates

of the colored and white population of various areas in the United States, Assistant Surgeon General Trask of the Public Health Service concluded that the colored death rates of most communities of the United States are not discouragingly high; that they are undoubtedly lower than they have been in the past; that they are as low as many white population groups possessed 20 or 30 years ago, and are in fact as low as some white populations possess at the present time; and that with the economic and industrial progress of the colored population, its death rate will gradually approach nearer to that of the white population.

AMERICAN NURSES' ASSOCIATION.—At the annual meeting of the American Nurses' Association in New Orleans, on May 3, Miss Annie Goodrich, R.N., of New York, was elected president of that organization, and Miss Mary Beard, R.N., of Boston, president of the National Association for Public Health Nursing for the ensuing year.

SMALLPOX IN DELAWARE.—Report from Wilmington, Del., on May 2, states that smallpox is at present epidemic in that city, 34 cases of the disease having been reported in the previous three weeks.

HYGIENIC LABORATORY PINE OIL DISINFECTANT.—In the issue of the JOURNAL for Oct. 21, 1915, (Vol. clxxiii, p. 632) we commented on the use of hygienic laboratory pine oil disinfectant. The following directions have recently been given for its manufacture:

"Heat in a covered enamel iron pail 1000 grams (a gram is 15.4 grains) of pine oil with 400 grams of pulverized resin until dissolved. Cool to 80 degrees C. (176 degrees Fahrenheit) and add 200 drams (25 ounces) of a 25% solution of sodium hydroxide (caustic soda). Agitate thoroughly for at least 10 minutes with a rotary Dover egg beater; add water sufficient to make mixture to the original weight and cool by placing the pail in ice water. Use cool water for diluting.

"In making this disinfectant use clear, transparent pine oil obtained by the steam or solvent process, not by destructive distillation. This oil distills at 207 degrees, and 85% of it will go over between 207 degrees and 230 degrees. The resin used should be strained North Carolina grade E resin, ground.

"The oil costs 40 to 50 cents a gallon, the resin about two and one-half cents a pound, and the total cost should not exceed 50 cents a gallon."

EUROPEAN WAR NOTES.

SURGICAL CONGRESS AT WARSAW.—Report from Berlin on May 4, states that the annual congress of German army surgeons is now being held this year at Warsaw, and is attended by 1500 surgeons, including many university professors, and the chief surgeons of the Austro-

Hungarian, Bulgar, German and Turkish armies. The address of welcome was delivered by General von Bessler, military governor of the Warsaw district. Dr. Schjerning, surgeon-general of the German army, stated in a paper that there are at present over 24,000 surgeons in the army, in addition to 3000 Red Cross physicians, 400 dentists, 1000 pharmacists and 92,000 soldiers in the sanitary corps in the field, 72,000 in Germany and 22,000 at army bases back of the lines. There are 238 hospital trains in service, and eighteen large disinfecting stations which are able to attend to 100,000 soldiers daily.

TWO NEW RELIEF FUNDS.—Two new relief funds for the European War have recently been initiated in the United States. Both have to do with the relief of the disabilities arising from injuries to the face.

The first is a fund for the foundation in France of an American hospital for wounds of the face and jaw. It is in charge of a national committee and of state committees throughout the Union. The Massachusetts committee consists of the following members:

Charles M. Proctor, D.M.D., chairman, 419 Boylston Street, Boston; William Rice, D.D.S., D.M.D., secretary, 149 Newbury Street, Boston; N. Penrose Hallowell, treasurer, 44 State Street, Boston; Edward C. Briggs, M.D., D.M.D., 129 Marlborough Street, Boston; Geo. C. Ainsworth, D.D.S., D.M.D., 45 Bay State Road, Boston; George H. Payne, D.D.S., 29 Commonwealth Avenue, Boston; Harvey W. Cushing, M.D., Peter Bent Brigham Hospital, Brookline; George B. Rice, M.D., 220 Clarendon Street, Boston; George H. Monks, M.D., Harvard Medical School, Brookline; William J. Mixter, M.D., 180 Marlborough Street, Boston; R. C. Greenough, M.D., Massachusetts General Hospital, Boston; Arthur F. Estabrook, 346 Commonwealth Avenue, Boston.

This committee has recently issued the following circular of personal appeal:

"Your help is needed in the great work of restoring horribly mutilated human brothers to the semblance of human beings.

"In the first twelve months of the war the official reports show 6,490,000 wounded. In this terrible sum of human misery there has been little time to think of after-effects.

"It is comparatively nothing that part of a man's face is shot away. If his life is not in danger he must leave the hospital as soon as possible to make room for a new victim.

"Because of the character of trench warfare, the number of facial wounds has been in proportion far greater than in any other war, and the accommodations, as to hospital space, are badly lacking. After first treatments the patients are now crowded out because the room is an imperative necessity in the never-ending battle to save life. There is no hospital devoted en-

tirely to the full treatment of these wounds, although several institutions are now carrying on the work to the limit of their capacity. The consequence is that a heroic young man may go out into the world in possession of his strength and all his faculties, but with so revolting an appearance that people shrink from him on the street. Noses are blown off, cheek bones crushed, upper jaws caved in and lower jaws shot away, but there is no time for any treatment except to prevent infection. With few exceptions the delicate rebuilding work must be entirely neglected. There is no time; no place.

"With a little help from you and other humane Americans thousands of these young men can be sent back into the world with nothing but a few scars to show. The committee has printed photographs showing these wounds before and after they have been treated by Dr. Morestin, the famous facial surgeon, who has been called 'the sculptor of human flesh.' It was decided that the 'before' were too frightful to be sent broadcast through the country, but if you desire, the person who sends you this appeal can arrange for you to see them.

"The greatest facial surgeons in the world have contributed their services to a hospital to be established in Paris for the treatment of these wounds. The French War Office has offered a suitable building. The American Red Cross will supply disinfectants, gauze, bandages, cotton and other hospital supplies. It has also given \$2000 in cash and may be of future assistance. For each \$20,000 the committee can establish and maintain one hundred beds. Even one hundred beds will do a great work. Five hundred will do wonders. Won't you help, if even only a little?"

The second of the two new special funds initiated in the United States is for the relief of soldiers blinded in the war. The appeal for subscriptions is issued by the British, French and Belgian Permanent Blind Relief War Committee, 590 Fifth Avenue, New York City.

"The first work of the fund will be to enlarge and modernize all the present blind institutions of Europe by means of financial donations, as well as assisting the work of Mr. Pearson in England, M. Vallery-Radot and Miss Holt in France. The fund later intends to organize in various European cities, additional modern well-equipped blind schools, blind workshops, blind employment exchanges and agencies for commercializing blind products, so that all this particular class of war victims may be saved from their present hopeless and helpless situation, and may be rendered self-supporting for life.

"Self-respecting, able-bodied, passing daily through a living death, these thousands of blinded war victims are being slowly killed, not by their injuries, not by starvation, but by the apparently permanent hopelessness of their situation. Six months' training, on the other hand, will educate each one of them in some trade not requiring sight. A single contribution of sev-

eral hundred dollars will go far to make one of these blinded soldiers self-supporting for life.

"The appeal is being sent to 120,000 people of prominence throughout the United States. The patronage of their majesties, the King and Queen of Great Britain, and the queen mother, Alexandria, as well as M. Raymond Poincaré, president of France, and King Albert and Queen Elizabeth of Belgium, has been obtained for the distribution of the appropriations from the fund in their respective countries.

"Mr. Pearson, the English newspaper proprietor, who is on the fund's executive committee, is now living at St. Dunstan's with 130 blinded soldiers and sailors, to whose rehabilitation he is devoting his life. This fund, although specifically organized to aid the blind of three nations, will ultimately contribute benefactions upon every blinded person throughout the entire world, its officials say. According to statistics, the world, a year before the war broke out, contained 2,500,000 blind. The number of blind who will be added to this total by the war cannot be estimated until years after the war itself is over."

EUROPEAN WAR NOTES.

WAR RELIEF FUNDS.—On May 13, the totals of the principal New England relief funds for the European War reached the following amounts:

Belgian Fund.....	\$119,266.13
Allied Fund.....	98,322.61
French Wounded Fund.....	80,679.20
British Imperial Relief Fund...	55,324.31
Armenian Fund.....	39,132.76
Polish Fund.....	33,613.26
Facial Hospital Fund.....	16,818.00
Artificial Limbs Fund.....	7,272.00
Scottish Women's Hospital.....	1,308.80

BOSTON AND NEW ENGLAND.

THE WEEK'S DEATH RATE IN BOSTON.—During the week ending May 13, there were 303 deaths reported, with a rate of 20.78 per 1,000 population, as compared with 266 and a rate of 18.53 for the corresponding week of last year. There were 42 deaths under 1 year as compared with 38 last year, and 94 deaths over 60 years of age against 75 last year.

During the week the number of cases of principal reportable diseases were: Diphtheria, 45; scarlet fever, 41; measles, 277; typhoid fever, 0; whooping cough, 41; tuberculosis, 70.

Included in the above were the following cases of non-residents: Diphtheria, 7; scarlet fever, 11; measles, 2; tuberculosis, 10.

Total deaths from these diseases were: Diphtheria, 4; measles, 4; whooping cough, 2; tuberculosis, 34.

Included in the above were the following deaths of non-residents: Diphtheria, 1; tuberculosis, 5.

REOPENING OF BURRAGE HOSPITAL.—It is announced that during the current season, the Burrage Hospital on Bumkin Island is to be reopened for the reception of patients.

"Mr. Albert C. Burrage built this hospital, and opened it in July, 1902. It was planned for the reception of 150 or more patients. For several summers its work went on, but it was discontinued when Mr. Burrage decided to live on the Pacific coast. For the past few years, the city authorities have received permission to use the first floor as a shelter for the children, who were taken there on the Randidge Fund daily excursions.

"The island was a legacy to Harvard College, and, under the provisions of the deed transferring it to that institution, could not be sold. Mr. Burrage overcame that difficulty by leasing the island for 500 years, which, for all practical purposes, is equivalent to a sale.

"The building is absolutely fireproof in its construction. Not only is the building itself of non-inflammable material, but the steam and hot water plant is in a separate building some distance from the hospital. There are no elevators and the difficulty which would naturally attend the transfer of children, and particularly of crippled children, from one floor to another, was overcome by building two sets of runways, which connect the first and second floors and consist of a series of gradual slopes, instead of one flight of stairs. Wheel chairs may be safely propelled by the occupants from one floor to another with very little exertion, and without the slightest danger. The floors of the runways are covered with rubber matting, so that patients may readily make the ascent or descent on foot or with the aid of crutches, if necessary."

LEGISLATIVE NOTES.—In the Massachusetts General Court recently, the committee on public health voted to report favorably a resolve for the appointment of a special commission to investigate the use of habit-forming drugs in this state, and the need of more restrictive legislation.

The legislative committee on public institutions has voted to refer to the next General Court a resolve for the appropriation of \$1,000,000 for the construction of a new metropolitan hospital for the insane at Waltham, Mass.

"Although there is urgent need of building a school in Western Massachusetts for the care of feeble-minded, the Legislature has taken no action on the bills for the building which were filed early in January. The delay is due principally to the uncertainty as to whether the Board of Insanity will be reorganized. The bill for the reorganization has been reported and it is likely that the Committee on Public Institutions will act soon on the institution bills before it.

"Last year's Legislature made an appropriation

of \$50,000 for the purchase of land in the western part of the state for a third school for the feeble-minded. Early this year, the State Board of Insanity purchased 880 acres of land in Belchertown for the site. The bills now under consideration provide for an appropriation of \$150,000 annually for five years for the construction of buildings to house one thousand persons. If favorable action is taken, the State Board of Insanity will immediately begin to make plans for the structures.

"In a report just issued by the League for Preventive Work, the statement is made that there are approximately 12,000 feeble-minded in Massachusetts outside of State schools. The great majority of these, according to the report, are unprotected in the community, 'where their presence constitutes a problem so grave that on economic, as well as social grounds, the need for this immediate provision should be carefully considered.'"

SCHOOL CHILDREN IMPROPERLY FED.—A conference lasting two days was held early in May under the auspices of the Women's Educational and Industrial Union, to consider the question of the school lunch. Superintendent Dyer of the Boston Public Schools stated that, in his opinion, 50% of Boston school children are improperly fed, largely through the ignorance of mothers. He recently investigated the food of one thousand children in a by no means poor district, and found that 80% of them had coffee or beer twice a day. Superintendent Dyer expressed a wish that the serving of scientifically prepared lunches as now carried out in the high schools of Boston could be extended to schools of lower grade. Sarah Louise Arnold, Dean of Simmons College, spoke on "Popular Education as to Diet;" Dr. Percy Goldthwait Stiles, instructor in physiology in Harvard University, read a paper on the "Application of Standards to the Need of the Normal Child," and Edward F. Brown, executive secretary of the New York Lunch Committee, spoke in regard to the relation of economics generally and the school lunch problem. Other papers along this same line showed the importance of this subject and its relation to the ability of school children to get the most out of their opportunities in school.

INSTRUCTIVE DISTRICT NURSING ASSOCIATION.—The recently published thirtieth annual report of the Boston Instructive Nursing Association records the work of that organization during the year ended January 31, 1916.

"The treasurer's statement shows that since the last annual report the permanent funds have been increased by about \$73,000. Of this amount \$20,000 came from two legacies and the balance from the trustees of the Gwynne Temporary Home, to be used principally for the care of children. The net income for the year was \$67,385, and the expenses were \$70,378, leaving a

deficit of \$3,092, which was met by the balance on hand at the beginning of this year. The balance at the end of this year, \$3,866, may take care of next year's deficit, but something must be done to enable the Association to have more income, since the demands for the services of the nurses are increasing every year and consequently the expenses.

"The usual amount of \$290 was received from the trustees of the Mrs. Arthur T. Lyman fund. From this and the balance carried over from the previous year, \$348 was granted sick nurses, and \$167 was paid for the care of special cases. The balance of \$76 belonging to the Comfort Fund was expended during the year, and it would be a great help to the Association if it were replenished, as it is used to buy delicacies for deserving patients who would otherwise be denied them.

"The total number of patients during the year was 14,049; new patients, 13,003; total number of visits, 128,742; and parental visits, 9,301."

MASSACHUSETTS DENTAL SOCIETY.—The fifty-second annual meeting of the Massachusetts Dental Society was held in Boston on May 3, 4 and 5. The sessions were at the Copley-Plaza Hotel and the Forsyth Dental Infirmary. The introductory and annual addresses were made by Dr. Charles M. Proctor of this city, the retiring president, who spoke particularly of dental legislation, of recent progress in oral hygiene, and of the great impetus given to oral surgery by the European War. Other papers were presented by Dr. Joseph B. Hartzell of Minneapolis, Dr. Joseph M. Levy of New York, Dr. E. Melville Quimby, Dr. Justin E. Nyce of New York, Dr. Samuel H. Leslie of Fort Strong, and Dr. H. E. Frusell of Pittsburgh. The following officers were elected for the ensuing year: President, Dr. Harold W. Cleaveland of Springfield; vice presidents, Dr. Frank T. Taylor of Boston and Dr. George C. Ainsworth of Boston; assistant secretary, Dr. Albert W. Day of Worcester; treasurer, Dr. Joseph T. Paul of Boston, and editor, Dr. C. Edson Abbott of Franklin. The election of a secretary was deferred until a later session.

The Society now has a total membership of 848.

MASSACHUSETTS ANTI-TUBERCULOSIS LEAGUE.—The second annual meeting and conference of the Massachusetts Anti-Tuberculosis League, held in Boston on April 27, was attended by over 200 persons. The report of the secretary, Mr. Seymour H. Stone, stated that the league is now composed of 36 organizations.

"More Red Cross Seals were sold last year than ever before, the total being 2,231,877, a gain of more than 400,000 last year. After pay-

ing the Red Cross its share and deducting expense of state and local agencies there is left \$19,500 to be used in the fight against tuberculosis. Of this amount the league received \$1603.51."

The following officers of the league were elected for the ensuing year:

"Vincent Y. Bowditch, M.D., president; Walter P. Bowers, M.D., James C. Coffey, Rev. William B. Geoghegan, John H. Gifford, M.D., Mrs. Joshua Hale, Louisa P. Loring, Allan J. McLaughlin, M.D., George L. Schadt, M.D., vice-presidents; Seymour H. Stone, secretary; Arthur Drinkwater, treasurer.

"Roger I. Lee, M.D., Vanderpoel Adriance, M.D., Carl A. Allen, M.D., Herbert C. Clapp, M.D., Eugene A. Darling, M.D., Mrs. J. H. Folger, C. N. Hilliard, Mrs. W. H. Lothrop, Rev. P. J. McCormack, Robert Marden, Edward O. Otis, M.D., Rev. P. W. Perkins, Walter G. Phippen, M.D., Daniel L. Prendergast, Charles E. Prior, M.D., Miss Julia W. Redfield, Mrs. George Rice, Mrs. F. G. Rounseville, George B. Sargent, M.D., William S. Smart, Arthur K. Stone, M.D., Thomas N. Stone, M.D., Miss Caroline V. Tucker, Mrs. Charles O. Tyler, George V. Underwood, M.D., executive committee."

It is expected that the series of papers presented at this meeting will be published in a later issue of the JOURNAL.

Obituary

PROFESSOR LÉON LABBÉ.

The recent death of Professor Léon Labbé marks the close of an honorable career of a distinguished French surgeon. Professor Labbé was born at Merlerault (Oise) on September 29, 1832. He graduated at the Paris Faculty in 1861, became *agrégé* in 1863, and surgeon to the hospitals in 1864, and for more than thirty years he was one of the leaders of French surgery. His name was brought prominently before the public many years ago by his successful removal of a fork from the stomach of a man who had swallowed it; the case was known as that of *l'homme à la fourchette*. Labbé was the author, in conjunction with Coyne, of a treatise on benign tumors of the breast, and of a number of other writings on surgical subjects. He was a member of the Institute of France and a very active member of the Académie de Médecine. He was also a Commander of the Legion of Honor. Labbé retired from professional life in 1905 and entered the French Legislature, becoming Senator for the Orne and President of the General Council of the Department.

Miscellany.

CURRENT ACTIVITIES ON
TUBERCULOSIS.

In the issue of the JOURNAL for March 2, 1916, we commented editorially on the recommendations of the Massachusetts State Department of Health relative to the county care of tuberculates in Massachusetts and on a proposed bill embodying these recommendations. At a hearing on this bill held recently before the committee on public health, among many others appearing in advocacy of the measure, Mr. Seymour H. Stone, representing the Massachusetts Anti-tuberculosis League and the Boston Association for the Relief and Control of Tuberculosis, reported that there are at present between thirty and forty thousand tuberculous persons in this state, for only two-thirds of whom adequate care is provided.

"In France it has been proved that from 95 to 98 per cent. of the people have tuberculosis in some degree. Hospitals as proposed would be better than the state sanatoria, because advanced cases will not stay at the latter, but will stay at local institutions. Two or three months are now wasted before an applicant can be admitted to a state sanatorium. The state is from 1500 to 2200 beds behind the needs of the public."

Others who advocated the measure were Dr. Francis H. Slack, secretary of the Massachusetts Association of Boards of Health, Dr. Charles E. Perry, superintendent of the Hampshire County Hospital for Tuberculosis, Dr. Everett M. Bowker of Brookline, Dr. Francis P. Denny of Brookline and Dr. Eugene R. Kelley of the Massachusetts State Department of Health. Dr. Perry reported particularly the success of the county institution at Northampton.

"Patients come from the large and small towns in about the same proportion. Northampton, having one-third of the population of the county, furnishes one-third of the inmates. Every dollar which is spent in the treatment of tuberculosis in this way saves many dollars in the future. Expenses are about \$11 a week per patient and the institution costs about \$50,000. The people of the county are well satisfied with it."

The Boston Association for the Relief and Control of Tuberculosis in its recently published twelfth annual report, comments particularly on the review of the work which it has done during the past year in the control of tuberculosis in Boston, where 1264 persons died of the disease during 1915.

"The coöperation of the Association with the Boston Consumptives' Hospital department and the Maverick dispensary in East Boston has resulted in the examination of many persons in

East Boston who might not have gone to the central dispensary in Boston.

"The Association has also made a special study of conditions causing tuberculosis in another section of the city with the hope that citizens interested in the welfare of this section will take the necessary steps to have these conditions bettered.

"Twenty-three legislative bills have been considered by the legislative committee and the Association has been actively interested in having the Department of Health placed under a single commissioner.

"The educational work of the Association has consisted of lectures and the distribution of about 60,000 pieces of literature. A new enterprise participated in by the Association, in coöperation with nine other agencies, was the giving of motion pictures and stereopticon entertainments on health subjects in the parks and playgrounds of the city last summer. These shows were very popular, it being estimated that during the four weeks they were seen by about 125,000 people.

"A conference on 'Communicable Diseases and Their Relation to the Handling of Food' resulted in the appointment of a new committee on health in industry, with a paid secretary. This committee has been working to establish graduate nurses in manufacturing and mercantile establishments, the Association believing that it is economy for an employer to conserve the health of the employees.

"Prendergast camp, maintained by the Association, has during the year cared for a total of 94 patients. Most of these were obliged to wait two or three months before being admitted to a state sanatorium and the life at camp during this interval helped to prevent their condition from becoming worse.

"In 1903, when the Association first began its work, the death rate from tuberculosis was 23 per 10,000 inhabitants. Last year this rate was reduced to 17. But there are still 100 deaths every month from the disease, in this city, and the need, therefore, to support an organization of this kind will be urgent for some time to come."

ANNUAL REPORT OF PUBLIC HEALTH
SERVICE.

In the monthly bulletin of the Massachusetts State Department of Health for January, 1916, appears an admirable review of the recently published annual report of the Surgeon General of the United States Public Health Service for the fiscal year 1914. This report deserves a perusal in full by physicians and all others interested in public health matters. A summary by the State Health Board deserves republication as a synopsis of the material in question:

"The annual report of the surgeon-general of the United States Public Health Service records the largest amount of work performed in the history of that organization. Since the passage of the law of 1912 the public health functions of the service have materially broadened, thereby increasing greatly its usefulness to the American people. Throughout the report the economic importance of disease prevention is made apparent to the reader.

"Perhaps the most important achievement of the year was the discovery that pellagra is a deprivation disease, resulting from a faulty diet containing an excess of carbohydrates. While the final experiments which led to this discovery have only recently been completed, the conclusion itself is the culmination of investigations extending over a period of seven years. The work has consisted of epidemiological field studies, actual feeding experiments conducted at numerous places in Georgia and Mississippi, and experimental research at Spartanburg, S. C., and other places.

"A new national quarantine station was opened at Galveston, Texas, and the control of the Boston station was transferred to the Public Health Service. A great reduction in immigration has been observed during the year, with a corresponding increase in the number of aliens certified. At the port of New York the percentage has risen from 2.29, previous to the development of the European conflict, to 5.37 since that time, this increase largely being due to the fact that with the decreased immigration more time can be devoted to the examination. The number of cases treated at marine hospitals and relief stations exceeded 55,000, 15,000 of which were hospital patients, a considerable increase over previous years. The coast guard cutter *Androscoggin* was fitted out as a hospital ship, and now affords relief to deep-sea fishermen on the Banks of Newfoundland.

"On the occurrence of plague at New Orleans, the first outbreak upon the Gulf seaboard, the State and local health authorities requested the Public Health Service to take charge of the situation. Extensive rat-proofing and other antiplague measures were undertaken, resulting in the eradication of the disease from among human beings, and the practical extermination of the rodent infection.

"Great reduction in the incidence of malaria was obtained in localities where surveys were conducted. Drainage projects, rice culture studies and the conditions surrounding the impounding of water for power purposes were investigated in order to eradicate as far as possible the disease in these areas. Scientific investigations of malarial infection showed that in the latitude of this country the most important agent in carrying the infection through the winter season is man, and not the infected, hibernating *Anopheles* mosquitoes, as was previously supposed. From the standpoint of prevention this is a discovery of considerable value.

"Studies of occupational diseases and industrial hygiene were instituted at several places during the year. A survey of the industries of Cincinnati was made to determine the cause of the prevalence of tuberculosis among industrial workers. The investigations relating to the migration of persons suffering from tuberculosis were completed.

"Upon the request of the health authorities of five states the organization and operations of the respective boards of health were studied and recommendations advanced for improvement in the powers and duties of these bodies. The health organizations of several cities were likewise investigated.

"Investigations of the pollution of streams and the examination of shellfish were also conducted.

"Trachoma was combated in the Appalachian Mountains, where it is most prevalent, over 12,000 cases being treated. Surveys in certain states during the year showed that the disease is not an uncommon infection.

"Rural sanitation work was conducted in six different states, and everywhere resulted in the reduction of typhoid and other communicable diseases.

"Public health laboratories for the prevention of the interstate spread of disease were established at Chicago, Seattle and numerous other railway centers.

"Additional duties have been imposed upon the service by extension of relief benefits to the newly organized coast guard and the physical examination of seamen applying for the rating of 'able seaman.' For this reason, and because of the greatly increased health functions of the service, an increase in the commissioned personnel is recommended. An additional building for the hygienic laboratory and the establishment of a national leprosarium for the proper segregation and care of cases of leprosy are also recommended."

INCREASE IN COST OF DRUGS.

THE continued increase in cost of drugs owing to the conditions of the European War has been even more marked during the past month than in the six months preceding. Report from New York on February 14, notes in part as follows the extent of recent advances in certain of the more important drugs.

"Urgent export inquiries for all kinds of narcotic drugs from the European battle fields have again prompted importers and derivative makers to advance their quotations for opium in all forms. An advance of 50 cents per pound has been named, bringing quotations for druggist's quality gum containing 11 per cent morphia and

over, to \$11.50 per pound, while powdered and granular grades have been raised to \$13 per pound. The receipts of opium from Turkey have practically ceased, but small supplies are being received occasionally from Russian Macedonia.

"Sharp advances have been named on acetanilid, which has been advanced 15 to 25 cents per pound and is held for \$1.40 to \$1.50 per pound.

"Quinine and its salts have held relatively steady within the range of \$1 to \$1.15 per ounce in second hands, and makers of domestic salts have continued to hold their output very firmly on the basis of 75 cents per ounce for the sulphate in 100-ounce tins. The epidemics of grippe and other diseases attributable to unhealthy weather conditions have been a material factor in increasing the volume of domestic business, while export demand from South America and other countries has also reached large proportions.

"The most significant development in the quinine situation at the moment is the inauguration of an upward movement by Philadelphia holders who have raised prices to \$1.25 an ounce. Advices from Amsterdam, Holland, have been received telling of an advance of more than 50 per cent. in prices for cinchona bark at auction where 121,398 kilos of pharmaceutical bark were offered on Jan. 20 last.

"All previous price records for mercurials were again broken on Feb. 8, when domestic manufacturers were compelled to advance their prices owing to the shortage of quicksilver. An advance of 60 to 75 cents per pound was named in all hard mercurials, calomel having advanced 70 cents to \$3.43; corrosive sublimate, granular and powdered, 60 cents to \$3.03 and \$3.08; mercury bisulphate, 60 cents to \$3.04; red precipitate, 75 cents to \$3.68 and \$3.78; and white precipitate, 75 cents to \$3.78 and \$3.83 per pound. The "soft" mercurials were advanced 30 to 50 cents per pound, the new figure for U. S. P. blue mass being raised 35 cents, to \$1.70 per pound; blue pills powdered, 35 cents to \$1.72; mercury and chalk, 35 cents to \$1.72; mercurial ointment, "1/2", 50 cents to \$2.03; mercurial ointment, "1-3", 30 cents to \$1.73 per pound, and citrine ointment, 35 cents to \$1.70 per pound. The above quotations apply to any one kind of assorted preparations in lots of 50 pounds or over, an advance being charged for quantities less than 50 pounds.

"Importers of Norwegian cod liver oil are advising the pharmaceutical trade of the acute situation prevailing. A limited quantity was offered at \$85 and \$90 per barrel recently, but prices have now jumped to \$100 per barrel of 30 gallons. The recent conflagration in Bergen, Norway, destroyed a large part of the available supplies. No offers of any importance are coming from abroad and the market in this country is nearly bare of stocks. As it will be nearly three months before any new lots from the 1916 catch can arrive in this country, it is certain

that prices will remain high for some months to come. Newfoundland cod liver oil is finding its way here when consigned to the British consuls at New York or Boston, and quotations for this oil in 30 gallon barrels now range from \$70 to \$73 per barrel, an advance of \$2 to \$5 over previous quotations.

"The shortage of coal tar drugs and medicinal preparations has become more acute than ever. Manufacturers who promised to come to the relief by the end of January, have evidently miscalculated, for prices have touched the highest levels yet recorded. Carbolic acid, the base product, has been advanced by manufacturers to a basis of \$1.39 and \$1.52 per pound for pound bottles, though drums of 280 pounds are being offered by largest manufacturers at \$1.25 and \$1.30 per pound. Spot stocks of phenolphthalein are reported practically cleared and prices have jumped to \$20 and \$22 per pound; acetphenetidin has been advanced from \$16 to \$22 per pound, antipyrine to \$50 and \$60 per pound; saccharine to \$12 and \$13 per pound; aspirin to 90 and 95 cents per ounce; benzoate of soda, salicylic acid and salicylate of soda to \$4 and \$4.25 per pound; artificial oil of mustard to \$15 and \$17 per pound; synthetic wintergreen to \$3.25 and \$4.25 per pound and artificial oil of almonds to \$5.50 and \$6.

"Increased costs of production of Rochelle salts, Seidlitz mixture, cream of tartar, tartaric acid and tartar emetic, have resulted in fresh advances in these products of 3/4 cent to 2 cents per pound.

"Wood and denatured alcohol have been raised 5 cents per gallon by domestic distillers owing to the heavy export orders in the market, and wood alcohol is now held at 62 and 67 cents per gallon and denatured at 55 and 59 cents per gallon.

"Stocks of German and other European proprietary medicines and patented concoctions are fast becoming exhausted in this country and disappearing entirely from the market. In this connection it is interesting to note that in a large number of cases foreign manufacturers of drugs, proprietary nostrums and medicinal and industrial chemicals, are either establishing or enlarging branches in this country in anticipation of action by Congress looking to the more rigid exclusion of foreign articles of this kind which come into competition with goods made in this country.

"The situation obtaining in all crude drugs of European and foreign origin has become more tense than ever. Belladonna leaves have advanced to \$1.50 and \$1.75 per pound and sellers now state that the supplies in this country are insufficient to supply the needs of the trade. Offers of Russian cantharides have been withdrawn by some sellers owing to the stoppage of imports en route from Russia."

A further report from New York on February

26 noted a continued advance in the price of all fine medicinal chemicals.

"Quinine has been holding relatively steady on the basis of \$1 per ounce in second hands, and 75 cents per ounce for bulk in manufacturers' hands. An order for 600 kilos or more than 21,000 ounces has just been received from Brazil, South America. The market strengthened on the receipt of this order and some holders raised their inside figures to \$1.10 per ounce.

"The market for medicinal coal tar products has touched new high record trading levels within the past few days following the stronger position of carbolic acid, which has been advanced 10 cents per pound by some sellers to a basis of \$1.35 and \$1.50 per pound in drums. Acetanilid, utilized in all headache powders and in other proprietary articles, has risen 50 to 60 cents a pound within the past few days and is now selling at \$1.70 and \$1.75 per pound on spot. There have been comparatively heavy export orders in the market within the past week and these have been filled at \$1.70 per pound. Phenolphthalein has also been advanced sharply and is now only obtainable at \$22.00 per pound against \$20.00 a few days ago. Aspirin continues in urgent request from all parts of the country and spot lots are selling for 90 to 95 cents per ounce, against manufacturers' quotations of 65 cents per ounce.

"Extensive purchases are still reported in the local drug and chemical market of narcotics, anesthetics, anodynes, analgesics and disinfectants as well as numerous crude drugs and medicinal preparations, by foreign consumers, and these are offsetting whatever falling off there has been in domestic business due to high prices. Cocaine is in urgent demand for legitimate usages. There is no shortage of coca leaves but makers of cocaine have already signified their intention of advancing the existing schedule price of \$3.75 and \$4 per ounce for the hydrochloride, owing to heavy orders now in the market.

"Strychnine is in much the same position as cocaine. The basic material, nux vomica, has just advanced to 7.5 and 8 cents per pound for the whole button, while the powdered has registered another uplift of 11 and 12 cents per pound. Demand for strychnine has been heavy and makers are expected to advance their schedule within the next few days. A generally higher plane has also been reached by practically all other crude drugs of Far East origin at the close of the week. Among essential oils East Indian sandalwood had risen to \$7.25 and \$7.75 per pound and West Indian to \$2 and \$2.25 per pound.

"The chief developments in the botanical drugs have included advance in colchicum root to \$1.10 per pound and the limiting of offers to less than 100-pound lots; the advance in select licorice root, owing to scarcity of the Spanish grades, to 20 cents per pound and in the ordinary root to

18 cents per pound; the advance in high dried rhubarb root to 19 and 45 cents per pound, in white squills root to 12 cents per pound; and the stronger position of all varieties of valerian root as well as gentian, couch grass, Jamaica ginger, and elecampane roots. Henbane leaves of Russian and German extraction were in short supply and prices have been raised to 75 and 90 cents per pound as to quality. All of the various descriptions of senna leaves, wintergreen leaves and sage, thyme and buchu have also enjoyed a wide demand at somewhat higher prices.

"Changes have been so rapid and precipitous that it has been impossible to post buyers accurately. Many values are today merely nominal and are fixed at random by whoever happens to hold the stocks. Speculation continues intense, many re-sale lots exchanging hands half a dozen times in the course of a day's trading operations. The situation has been further complicated by reports from the Far East which indicate that Great Britain has imposed additional embargoes as well as increased export duties on many drug and spice products. Cablegrams from Lyons received yesterday indicate that the French Government has prohibited all future exports of Belgian products. This will have a material effect on valerian roots, chamomile flowers and various other botanical drugs which had been arriving here."

Further report from New York on March 14 states that speculative operations in the wholesale drug and chemical markets have still further continued the general rise in prices described above. Many coal tar medicinal drugs and vegetable alkaloids have disappeared from the market and physicians have been obliged to discontinue prescribing certain high-grade foreign goods now virtually out of stock in this country. The result of compulsory substitution has created an abnormal demand for certain other drugs hitherto having but a small market or being unaffected by the general rise in prices.

"A sharp advance in price of metallic bismuth in the London market to a basis of 11s. per pound prompted domestic manufacturers of bismuth salts to raise their prices to the highest point of the year. The revised quotation, March 8, for metallic bismuth in manufacturers' hands was \$3.15 and \$3.25 per pound, but second hands were securing all the way from \$6.00 to \$7.00 per pound for small lots from store.

"Predictions of advances in strychnine and its salts and in cocaine have been realized within the past week, export inquiries having become more numerous. The market for strychnine is 10 cents an ounce higher all round, manufacturers having raised their quotations in 100 ounce lots. For eight ounce vials an advance of 25 cents is exacted. The market for cocaine was likewise subjected to a precipitate advance amounting to 50 cents an ounce, owing to the heavy demand from export and domestic channels. The muriate or hydrochloride is now being

quoted by the manufacturers on the basis of \$4.25 per ounce for bulk; \$4.30 per ounce for 1 ounce vials.

"A fresh upward movement also has occurred in all medicinal preparations of potash owing to continued scarcity and high cost of muriate of potash, which is still practically unobtainable in less than small lots under \$500 per ton. The most conspicuous advance was in iodide of potash which was raised to \$4.30 and \$4.35 per pound in bulk lots of 50 pounds or more. The market for red prussiate of potash which had been hovering around a \$7.00 per pound basis, reacted somewhat when offers were made on a \$6.00 pound basis, but all other technical compounds of potash have touched new high record trading levels. The market for nitrate of potash or saltpetre is still nominal, owing to the heavy demand from the ammunition manufacturers, and spot quotations are given at 38 to 40 cents per pound.

"Among medicinal acids the features included an advance of 20 cents by manufacturers over their previous schedules on pyrogallie acid. The medicinal tannic acid which is being made only by a few chemical manufacturers was also raised 10 cents a pound.

"All tartar products registered sharp advances in second hands. Tartaric acid crystals U. S. P. have advanced to 72½ and 75 cents per pound, while the powdered are being held at 65 to 70 cents per pound.

"Constantly advancing prices for denatured and wood alcohol prompted formaldehyde manufacturers to raise their quotations on March 8 to a minimum basis of 10½ and 12 cents per pound in barrels and 11½ and 12 cents per pound in carboys. This was an advance of 2 cents per pound and marked the first uplift of any importance in this product which had occurred since the outbreak of the European War. The advance of formaldehyde brought with it sympathetic advances in preparations of this disinfectant.

"Among the medical group of coal tar chemicals, acetanilid prices have risen 25 to 50 cents per pound to a minimum basis of \$2.25 and \$2.50 per pound in second hands against a manufacturer's quotation of \$1.65 and \$1.75 per pound. Antipyrine has practically disappeared from the market and only pound and ounce lots appear to be obtainable from second hands and for such quantities \$64.00 to \$65.00 per pound is being asked. The situation in acetphenetidin is almost identical. The market for aspirin has broken through the \$1.00 an ounce basis, according to some sellers, and even higher prices are predicted in view of the protracted shortage of aceto-salicylic acid.

"Among fixed oils the most prominent development has been another wild upward movement in the market for Norwegian and Newfoundland cod liver oil. Cablegrams received on March 10th indicated that the total produc-

tion of Norway to February 22 had been only 3,364 barrels which contrasted with 5,551 barrels on the corresponding date a year ago. Hence sellers here raised their prices to \$135 per barrel for Isdahl's oil. The market for Newfoundland cod liver oil moved up in sympathy with the rise in Norwegian grades and the inside quotation for Munn's was raised to \$85.00 per barrel, an advance of \$10.00. The trend in other fixed oils also has been generally upward. There has been no relief from the scarcity of castor oil and prices are fully 5 cents per pound higher, ranging today from 24 to 25 cents per pound for the standard to crystal grades.

"A wild flurry has taken place in glycerine following the British Government's embargo on shipments of palm oil. American makers of the crudes and distillers of the chemically pure grades have advanced prices sharply.

"Quicksilver prices having declined \$50 per flask of 75 pounds to a basis of \$250 to \$260 per flask following larger receipts from California as well as a few isolated consignments from Europe. There has been no corresponding decline in quotations for mercurials. Another exception to the general upward movement in prices for nearly all drugs and chemicals has been the lowering of views of second hands on quinine. This drug is now obtainable from resellers at 90 cents per ounce in a large way, and it is intimated that even this figure could be shaded on a large order. Hydrogen peroxide has likewise been subjected to a sharp downward revision, as manufacturers have been receiving more liberal supplies of barium dioxide.

"Growing shortages of practically all foreign botanical and quasi-botanical goods have also resulted in sensational uplifts in prices. A precipitate advance from 55 cents per pound to \$2.00 per pound has taken place in cut althea root. Aconite root has advanced from 18 and 20 cents per pound to 50 cents a pound; select licorice root from 20 to 25 cents per pound; arnica flowers from 60 to 80 cents per pound; Hungarian chamomile flowers from 50 cents to 65 and 70 cents per pound; celery seed to 35 and 36 cents per pound; Belgian valerian root to 65 cents per pound; powdered and ground rhubarb root to 22 and 45 cents per pound; genuine dog grass root to 95 and \$1.05 per pound; hellebore root to 45 cents per pound; colechicum root to \$1.25 per pound; china bark with total alkaloids of 7.48 to 30 cents per pound; while henbane leaves measuring up to the U. S. P. requirements have been advanced to 90 cents and \$1.00 per pound, and belladonna leaves to \$2.00."

The extreme rise in price of certain important and frequently used drugs, such as aspirin, salvarsan, potassium bromide, has led in some instances to the substitution of inferior or spurious articles on the market at lower prices. Early in the year the cities of Savannah and Wilmington, in the South, and San Francisco and Port-

land in the West, were flooded with spurious aspirin and salvarsan.

"The spurious goods also made a general appearance in the eastern markets and a general complaint has gone up from unsuspecting buyers who complain that a small lot purchased from a retail drug store will usually contain one or two genuine aspirin tablets, while the balance will be made up of unstamped tablets, which have often proved actually harmful."

"The infringement of the German patents on salvarsan and neo-salvarsan, otherwise known as '606', by Canadian proprietary manufacturers and the flooding of the Western markets on the Pacific coast with supplies of the spurious goods has already met with serious consequences, according to San Francisco advices which state that eleven sailors met their death through administration of spurious salvarsan. The endeavor to locate the actual sources of supply have thus far proved futile.

"New York representatives of Canadian drug houses are aware that attempts to duplicate salvarsan have been made in Canada, but they deny that any of the goods have reached the eastern United States seaboard. One interest in close touch with the situation says:

"The patents on salvarsan and neo-salvarsan are public property and copies of them can be obtained by anyone who will send 25 cents to the United States Patent Office. The secret in the manufacture of salvarsan does not lie so much in a knowledge of what the constituent elements of the drug are as in the knowledge of the secret process of compounding. So far as we are aware, no Canadian manufactured salvarsan has ever found its way on the market in New York, but we do know definitely that considerable quantities of the genuine German goods have been smuggled from Denmark and have been disposed of here at fancy prices."

"Substitutions have not by any means been confined to the retail end of the drug business. Non-scrupulous dealers have sprung up like mushrooms with the advent of intense speculation and thousand-fold inflated war prices.

"A striking example of the length to which some hawkers of questionable articles will go was recently furnished when one buyer who purchased several barrels of bromide of potash worth \$5.50 per pound, found on receipt of his goods that he had been shipped ordinary refined sugar instead of the bromide of potash. The substitution in this case was accomplished with skill and simplicity, the only deceptive requirements of the shipper having been the original containers and markings of some legitimate chemical manufacturer. Bromide of potash and refined sugar are nearly identical in appearance and the fraud was discovered only when the consumer endeavored to use the sugar in the preparation of a pharmaceutical product. The loss to the buyer is evident, refined sugar being

worth about \$15.00 per barrel while bromide of potash is worth \$5.00 per pound.

"Other evidences of the steps to which unscrupulous dealers will go to make capital out of the existing unprecedented conditions in the drug market are not wanting. The ban on the illegitimate usages of narcotic drugs through last year's enactment of the Harrison anti-narcotic law has by no means shut off the backdoor sources of supply. Much to the surprise of Government officials and manufacturers themselves, illicit trafficking in cocaine, morphine, heroin and even opium itself continues. One of the leading New York manufacturers of narcotics has kept a constant vigil on factory employees in the endeavor to discover a leak which has uninterruptedly accounted for more than 10% of his total output for more than ten years back. It was found that a trusted employee had been conducting a steady business in the stolen goods with outsiders. It was also found that stocks of narcotic drugs had been stolen from delivery wagons. These sources of supply for illegitimate drug trafficking have now been closed up, but new schemes for illegitimately procuring the goods are constantly recurring and manufacturers are at a loss how to lock effectually the stable door."

All these practices are, of course, in flagrant violation of federal law, and will be summarily suppressed or dealt with in such manner as to protect the market, the profession and the public.

Further report from New York on March 23, announced a continued advance in the cost of quinine.

"Advices from Amsterdam, Holland, state that Dutch makers have disposed of their entire production of quinine salts for 1915 at private terms, and that the output for 1916 also has been sold ahead at secret prices. The situation in quinine is further emphasized by cable advices from London, reporting a decrease of 83.5% in the total holdings of quinine on Jan. 31 last, as compared with a year ago, and 167% as compared with the holdings in 1911. The present stock of 1,441,488 ounces represents Dutch and German brands, whereas all English make is contracted for ahead to the government. With most London dealers and exporters refusing to handle German brands, and the Dutch makers having sold their production for this year ahead, no replenishment is in sight in this country, and indications now are that a sharp upward movement will be seen as soon as some of the weak holders have been eliminated.

"While demand for quinine is only fair in the local market, there is now a stronger undercurrent and second hands are reluctant to sell below 85 cents an ounce, as compared with a manufacturer's price of 75 cents an ounce. The further cable advices from London reporting an advance of 100% in the price of cinchona bark,

the principal source of quinine, also are affecting the situation in the drug.

"Among other new high levels touched in the drug and chemical market within the past few days are included a sharp advance in benzoic acid from toluol to a basis of \$7 per pound, comparing with a previous quotation of \$5 to \$5.50 per pound. This advance is based on the high cost of toluol and the small domestic production of benzoic acid. All of the metal chemicals are also considerably higher."

Further report from New York on March 30 states that although there has been a decline in the output of carbolic acid during the past year, so that its cost and that of its derivatives is steadily rising, there has been a definite decline recently in the price of camphor, cod liver oil and quinine.

"A late cablegram received from Christiania, Norway, yesterday, gave a more encouraging report on cod liver oil supply. The yield up to last week was but 20,895 barrels, but this week's cablegram reports an actual yield of 27,991 barrels of oil. The comeback of the Norwegian industry is attributed to the fact that production this year is exceedingly large when compared with the catch. Market quotations for Norwegian cod liver oil still range from \$120 to \$150 per barrel in the local market, while the Newfoundland oil has just been advanced from \$90 per barrel to a minimum of \$115 per barrel, owing to increasing scarcity.

"South America also has been in the market for quinine within the past two days, an order for 4000 ounces having been received from Latin America. No important domestic demand, however, is noted for this product, which is still being quoted at 80 to 85 cents per ounce by second hands and 75 cents by manufacturers. Other developments of an important character include an advance of 3 cents per pound in tartaric acid, an advance of 1½ cents in cream of tartar, an advance of 25 cents in acetanilid, to \$2.75 per pound, and an advance in resorcin to the new high record figure of \$25 a pound, a rise of \$5."

Further report from New York on April 1 announced a few additional changes in price since the previous communication.

"Among the prominent revisions was an advance in citrated caffeine to \$8.50 per pound, and an advance in Newfoundland cod liver oil to \$120-\$125 per barrel. Opium, quinine and codeine were reported in moderate demand, and prices showed no weakness. An increase in the supplies of Russian isinglass resulted in a decline to \$6.50 and \$7.50 per pound, but Russian cantharides were in limited supply and not obtainable under \$8.50 and \$9."

Correspondence.

THE STUDY OF THE INTERNAL SECRETIONS.

Mr. Editor: The increasing appreciation of the importance of the glands of internal secretion and their influence upon the etiology as well as the treatment of any disorders, has made the subject of unusual interest to many physicians. It has been suggested recently by several American physicians that it might be well to form an *Association for the Study of the Internal Secretions*; and it is desired to know whether there is sufficient interest in this matter to warrant its further consideration.

A few of the prospective advantages of such an association would be: (1) The assembling of those with a mutual fellowship of interest in this subject; (2) Facilitating the exchange of ideas, inquiries and reprints on the internal secretions; (3) Enabling those who are interested, but do not have the facilities, to keep in touch with the articles that are appearing on this subject so frequently, but in such scattered and inaccessible periodicals—perhaps a monthly list of these articles with a brief résumé of their contents eventually might be prepared; (4) Facilitating concerted clinical study of the subject and the measures being brought forward in organotherapy.

No effort has yet been made to form such an association; but any physicians who are interested and would welcome the establishment of a community of interest embracing some or all of the points just mentioned, as well as others which cannot be enumerated for lack of space, are requested to send their names and addresses on a postal card to the undersigned at 715-19 Baker Detweiler Bldg., Los Angeles, Cal.

HENRY R. HARROWER, M.D.

SOCIETY NOTICE.

THE NEW ENGLAND HOSPITAL MEDICAL SOCIETY will meet at Boston University, 688 Boylston Street, corner of Boylston and Exeter Street, Boston, Thursday, May 18, 1916, at 8 P.M.

Subject: "How Can the Women of the Medical Profession Help the Navy and the Army in Preparedness?" by Dr. N. J. Blackwood, Medical Inspector U. S. Navy, and Col. Frank A. Graves, 8th Massachusetts Infantry.

ANNA O'SULLIVAN, M.D., Secretary.

RECENT DEATHS.

DR. WILLIAM H. HOYT, a retired physician residing in Wenham, Mass., died at his home on May 3, at the age of 54. He was born in Northfield, Vt., and graduated from the Medical Department of the University of New York in 1886. He settled in Sioux City, Ia., and continued in practice in this city for twenty-five years. He leaves a widow, his mother, a brother, Dr. S. M. Hoyt of Omaha, Neb., and a sister.

DR. JOSEPH ROWE WEBSTER, a retired Fellow of The Massachusetts Medical Society, died at his home in North Lexington, Mass., May 9, aged 82 years. Dr. Webster was a native of Milton, Mass., where he was born Nov. 3, 1833. Entering Harvard College, he graduated eighth in his class in 1854, and he received his M.D. from the same university in 1859. In this year he joined The Massachusetts Medical Society from Milton, subsequently practicing in Natick, Dorchester and Cambridge, Mass., living in the last city from 1898 until 1914. He was retired in 1908. He was a member of the Phi Beta Kappa, the Botanical Club, and the Boston Society of Natural History. He is survived by two sons and two daughters.